






Dr. John F. Gray.

With the Compliments  
of the author.

Homer B. Postwick,  






*H. Postwick M.D.*



A COMPLETE  
PRACTICAL WORK  
ON THE  
NATURE AND TREATMENT  
OF  
VENEREAL DISEASES,  
AND  
OTHER AFFECTIONS  
OF THE  
GENITO-URINARY ORGANS  
OF THE  
MALE AND FEMALE.

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ILLUSTRATED BY A GREAT NUMBER OF BEAUTIFULLY COLORED PLATES, AND MANY FINELY  
EXECUTED DELINEATIONS ON WOOD.

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BY HOMER BOSTWICK, M. D.

AUTHOR OF "A TREATISE ON THE NATURE AND TREATMENT OF SEMINAL DISEASES," &C., &C., &C.

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## P R E F A C E.

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THERE are no maladies to which the human family is liable, of deeper importance, either in a medical or moral point of view, than those arising from impure sexual intercourse. With their moral bearings, in a work of this nature, we properly can have nothing to do. As medical men, it is our business to look at disease merely as it affects life and health ; and our efforts are directed, not to the reformation of man's vicious propensities, but to the mitigation of his bodily sufferings. It is in this abstract sense that we write of venereal affections ; and it is in this sense that the student should address himself to their study. If his feelings are allowed to influence his professional pursuits, his qualifications will necessarily be limited to those subjects that are most agreeable to his tastes. To become an enlightened practitioner, it is essential that he should be a liberal and ardent one ; and affections, in their nature repulsive to delicate sensibilities, must be regarded in no other light than as morbid phenomena of the living body.

The whole business of the medical art, when we take a low view of it and regard it only as labor, is a disagreeable one. In any form, disease is unpleasant to look upon. The sick chamber affords no pleasant sights. The physician is made the



witness both of physical pain, and moral infirmity. Struck by disease, the attractive parts of man's nature are clouded over. He is fretful, irritable, complaining. His pride is humbled; his intellect is disturbed; his whole character, in a word, is transformed. Too often, alas, is sickness the consequence of his own folly. Self-indulgence, the gratification of appetites, the exhausting toil of avarice, the feverish labors for human applause, all produce their baneful effects upon the constitution. But to the medical attendant, the moral aspects of these facts are not to have any influence upon his skill or his care. At the best human nature is but weak. This is the first truth for us to learn. And in whatever way this weakness is exhibited, the philanthropic heart will feel, that it is a pleasure as well as a duty to relieve bodily infirmities, whenever, and however they appear. This is the higher and nobler view of medical science. It devotes itself to the mitigation of pain, the abatement of disease, the restoration to health. In doing this, its minister must be the spectator of much that is disagreeable, but he is rewarded by the lofty satisfaction of feeling that although personal comfort is sacrificed, and sympathy is often painfully excited, yet it is through such a road that benevolence has the widest scope, and meets with the richest return for its labors.

In this view, all diseases are alike to the faithful physician. He makes no distinction between the causes that have developed them. He sees man suffering, and all his faculties are employed to give him health. Disease he regards as a misfortune and not as a punishment.

Of all the affections that afflict man, there is no one more terrible in its consequences than syphilis. Dreadful as it is to the person who first contracts it, frightful as frequently are its ravages in *his* constitution, ending, occasionally, in destruction, yet it is a disease of deeper interest, and more to be lamented, when it is transmitted to offspring. Children often come into the world with the disease hideously manifested to the eye, covered with blotches and sores, with wrinkled faces having the

appearance of old age, and it is probable, that every particle of the living organism is equally tainted with the poison. When such a condition exists, it cannot be doubted that life will too frequently be short and full of pain. Scrofula, consumption, and other diseases that are sometimes hereditary, are in many cases, its fruit ; and one way to stay the devastating march of those fearfully fatal affections, is, as far as practicable, to eradicate syphilis from the world.

Would it not seem, that a disease so prevalent and so direful, ought to excite the deepest interest among medical men, both as respects its true pathology and its treatment ? What excuse can he offer for his deficiency, who calls himself a surgeon, and yet does not even recognize the disease when he sees it, and is ignorant of the best means of checking it and preventing any future evil consequences ? Is it enough for him to say, that to the imagination the disease is a loathsome one ; that it is a disreputable one to have, and a disgusting one to treat ? Such an excuse may, possibly, satisfy him who has no better, but it will not satisfy science nor philanthropy.

Whoever undertakes the medical profession with a true spirit, will never rest contented with knowing only a limited part of it. There is no subject that he thinks unworthy of investigation and study. He cannot be satisfied with a smattering knowledge of what he is bound to understand well. He feels resting upon him a double obligation — one, the duty he owes to the public to whom he announces that he is a qualified member of a noble profession ; the other, the duty he owes to himself, to make and maintain a reputation for attainments and skill.

There are some practitioners, indeed there are many, who are ignorant of venereal diseases, because, they fancy it is not *respectable* to treat them : of all such persons, it may be asserted, as beyond dispute, that their ignorance is not confined to these diseases alone. They will be found deficient in all other points, and are not properly qualified for the responsibilities they have assumed. Whoever has a just

appreciation of the medical art, will not know any difference in the respectability of diseases. All maladies are alike fit subjects for his care and reflection ; and the only distinction that he acknowledges, is that which arises from their greater or less gravity. Circumstances may, indeed, direct his practice in a particular channel, so that his business will be inclined to one class of affections rather than another, but this is not because he regards some as beneath or unworthy of his notice.

Quackery has profited by the neglect that venereal diseases have experienced, and it is notorious that pretenders have secured a large share of such practice. It is time for the profession to free itself from this reproach. The welfare of society is as deeply concerned in this, as it can possibly be with any other disease that afflicts the human family.

Entertaining such opinions, I resolved to present to my medical brethren a book, which will, I trust, afford every facility for becoming intimately acquainted not only with the mode of treating this class of diseases, but for knowing their exact appearances when they occur. Such a work I believe is still wanted. Much has been written on these and kindred subjects, especially on the eastern side of the Atlantic, but no author that I have met with, furnishes all that is needed on the various affections that properly group together in a work of this description. There are a few monographs, it must be admitted, that are excellent ; but a systematic work, in my judgment, is required, embracing all the leading principles and facts, and avoiding the introduction of matter that is unnecessary to the proper appreciation of the subject.

This undertaking has been to me one of considerable labor. Every author of any pretension I have examined, and whatever I have found useful has been incorporated in the following pages. My aim has been to make not a theoretical, but a practical book. Much of the matter in the pages of those already published is obsolete ; much more of it should be so. To make a really instructive work on this subject,



it is necessary to delve in the dust of medical literature, and separate the gold from the dross in which it lies concealed. This has been a part of my task. For years, these diseases have occupied a large share of my attention. The practice of others has been subjected to the *experimentum crucis*; while my opportunities, which, it may be alleged, have not been restricted, have never, I hope, been permitted to pass without taking advantage of them for the improvement of this branch of medical science.

The most thorough way, unquestionably, to study disease, is on the living subject. For many obvious reasons, in this country, such an advantage can only be enjoyed by but very few. Venereal wards of large hospitals, and a constant attendance on the part of the student, are necessary to attain proficiency by this method. Pictorial representations afford a very good substitute for clinical study. In some respects, pictures, when executed with fidelity, possess an advantage over studies pursued in Institutions for the sick. The peculiarities of appearance can be examined more at leisure, and this may be repeated as often as necessary to understand precisely the distinction between one form of the disease and another. At all times, plates may be referred to when any doubts exist as to the real nature of the symptoms under observation. We may thus be said to have before us, perpetually, a guide that will not readily permit us to go astray.

My object, in part, has been to furnish a work of this nature. It contains thirty-seven colored plates, and a large number of fine wood engravings. No expence has been spared in having the pictures perfect delineations of disease. I have intended to make this the most elegant and accurate medical publication that has ever been issued from the American press, and I do not hesitate to say, that the plates will bear a favorable comparison with the finest artistical productions of London or Paris. Some of the drawings I have borrowed from the great work of Ricord, others from Acton and Judd, and some I have had copied directly from life.

The execution of the illustrations in colors, was entrusted to Mr. Francis Michelin, a lithographic artist of this city ; and it can scarcely be necessary to add, that he possesses both judgment and skill — his work speaks for him.

To increase the value of the plates, each one is accompanied with a history of the case that furnished the subject for the artist's pencil. The reader will thus, at the same time, be made acquainted with the actual appearance of disease, and with the treatment most advisable to adopt for subduing it.

The engravings on wood were done by Messrs. Lossing and Barrett ; and for the faithful manner in which they have been executed, I feel that they are entitled to this public acknowledgment.

HOMER BOSTWICK, SURGEON.

*No. 504 Broadway.*

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# ANATOMY

OF

## THE ORGANS OF GENERATION.

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IN examining diseases, a difficulty is often experienced, by those who are not familiar with Anatomy, in understanding the descriptions involving the relations and structure of organs. Anatomy and Physiology is necessarily the basis of sound medical knowledge ; and every one must have felt how greatly labor is abridged, and how much more precise are our ideas of the pathological state, when we are acquainted with the situation, organization, and function of the parts we are studying. To make this work complete in itself, contrary to the practice which generally prevails, I have determined to introduce the subjects treated of, by presenting an Anatomico-Physiological account of the Genito-Urinary apparatus.

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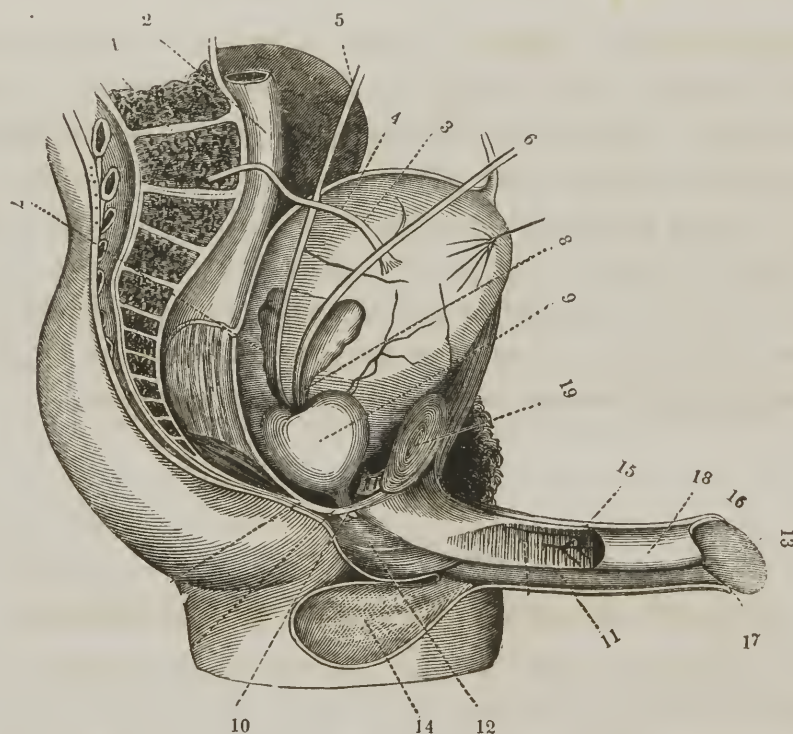
### CHAPTER I.

#### ANATOMY OF THE MALE PARTS OF GENERATION.

PARTS within the Pelvis. — The bladder of Urine. — The Sphincter of the Bladder. — The Prostate Gland. — Muscles of the Ureters. — Structure of the Penis. — Of the Urethra. — Of the Testes. — Descent of the Testicle. — The Vessels of the Cord and Testicle. — Structure of the Testicle. — The Vesiculæ Seminales.

As there is no very accurate division betwixt the viscera of the abdomen and those of the pelvis ; as the uterus and bladder, being viscera of the pelvis, rise into the belly when distended, and are, in every respect, like the abdominal viscera, many have altogether objected to a division of the viscera of the abdomen and pelvis : nevertheless, there appears to be good reason for this division of the subject. The functions of the parts are different ; the manner of their connexion is different, and their diseases have widely different effects.

The pelvis consists of the sacrum, os coccygis, and ossa innominata, and anatomists have distinguished the true and the false pelvis. The false pelvis is formed of the extended wings of the ossa ilii, and supports the viscera of the abdomen. The true pelvis consists of that cavity which is beneath the promontory of the sacrum and the linea innominata; it contains, in man, the rectum, the urinary bladder, the prostate gland, the vesiculæ seminales, and part of the urethra. In woman it contains the rectum, vagina, uterus, Fallopian tubes, ligaments of the uterus, and ovaria.



EXPLANATION OF PLATE.

*The pelvis is divided on the meridian line, and the engraving shows the right side of the organs.*

1. The vertebral column. 2. Colon. 3. Bladder. 4. Ureter, conducting the urine from the kidney to the bladder. 5, 6. Vasa deferentiæ. 7, 8. Vesiculæ seminales. 9. Prostate gland. 10. One of the glands of Cowper. 11. Canal of the urethra. 12. Bulb of the urethra. 13. Glans penis. 14. Right testicle. 15. Skin covering the penis. 16. Prepuce. 17. The Frænum. 18. Corpus Cavernosum. 19. Pubis.

## THE BLADDER OF URINE.

THE bladder of urine must be classed with the membranous or hollow viscera. It is a bag or receptacle into which the urine slowly distils through the ureters, that it may be expelled at convenient seasons. It is nearly of a regular oval form, when moderately distended, the ends being obtuse ; but from its connexions, and the pressure of surrounding parts, this regular extension is not allowed in the living body. When seen moderately distended, *in situ*, it rises somewhat pyramidal upwards ; it is flat upon the os pubis on the fore part, and towards the back and lower part a portion may be seen somewhat sacculated, and below the level of the commencement of the urethra.

We describe the body, fundus, neck, and lateral parts. The fundus is the upper part ; the neck is where the urethra commences, and where the prostate gland is attached ; the lateral part is, where being distended it stretches at its lower part to the sides of the pelvis.

On the fundus there is a ligamentous process, continued in a direction towards the umbilicus ; this is the urachus. I would not give the name here, which is properly applicable to a tube peculiar to the foetus of quadrupeds, was it not to add that sometimes, even in the adult human subject, there is an open tube, so that the urine passes out from the umbilicus.\*

The bladder is situated higher in the boy than it is in the adult. In the foetus it is almost entirely out of the pelvis, and reaches nearly to the umbilicus. At three years it is said to rise no more than three fingers' breadth above the os pubis ; at twelve it is only half an inch above the level of the bone ; at eighteen it is said to be completely hidden behind the pubes.

When the bladder is empty, or contains only a moderate quantity of urine, it takes a triangular figure in the dead body, the base of which rests on the rectum, and the apex is attached to the back of the os pubis ; and when in dissection you look down into the pelvis, you find the back part of the bladder flat, and as it were stretched obliquely upon the os pubis.

\* *Fernelius de part. morb. et symptom*, gives an example of a man who, having an obstruction at the neck of the bladder, passed his urine by the umbilicus. Wepfer gives a similar case of a man with calculus. These are quoted by *Albinus, Annot. Acad.* and also the *Philos. Transactions*, n. 323. See also Sandifort *Thes.* vol. iii. p. 234—246. Haller, *Elemen. Physiol.* lib. xxvi. § ii.



**STRUCTURE OF THE BLADDER.**—Like the other hollow viscera, the bladder consists of several coats.

The **PERITONEAL COAT** of the bladder does not surround the bladder, but only covers the fundus and back part. It is like, in every respect, to the peritoneal coat of the abdominal viscera; smooth without; and adhering to the inner coat by cellular membrane; which cellular membrane is, however, of a looser texture, and in greater quantity than under the peritoneal coat of the abdominal viscera. This peritoneal coat is, no doubt, of much service, as a division in obstructing the course of inflammation arising from the diseases in the lower part of the pelvis, or from operations performed on the bladder, rectum, or perinæum. Were it not for the loose peritoneum spreading over the cellular texture of the pelvis, we could neither be so bold nor so successful in our operations here. That portion of peritoneum which covers the back part of the bladder, forms a particular transverse fold when the bladder is contracted. This fold surrounds the posterior half of the bladder, and its two extremities are stretched towards the side of the pelvis, so as to form a kind of lateral ligament.

Though in the contracted or moderately distended state of the bladder, the peritoneum stretches from the back of the os pubis to the bladder, the distension of the bladder, in an immoderate degree, raises the peritoneum off from the pubes, so that the bladder can be struck with a trochar, or lithotomy performed above the pubes, by an incision directly into the bladder, without piercing the outer or peritoneal coat.

Towards the lower part, the bladder, as we have seen, is invested only by cellular membrane, which takes the place of the peritoneal coat of the fundus. This tissue is very loose, and permits the distention and contraction of the bladder, which looseness of texture is a matter of regret, when blood or urine is forced into this tissue.

**MUSCULAR COAT.**—The muscular coat of the bladder is very strong. Three strata of fibres are described by authors. They are so strong as to have been classed with the distinct muscles, and the whole coat has been called **DETRUSOR URINÆ**. Towards the lower part of the bladder the fibres are particularly strong, and formed into fasciculi, and are like a net of muscles inclosing the bladder.\* These fasciculi acquire greater thickness and strength when the bladder is excited by opposition, as from stricture in the urethra.

\* Morgagni Advesar. Anat. iii. Animad. xxxix.



Towards the fore and lower part of the bladder, the muscular fibres congregate into a sort of tendon, which goes off to the back of the os pubis, which we count to be the insertion of the tendon of the bladder, and certainly this hold, which the bladder has upon the os pubis, causes it, in its contraction, to be drawn to the back of the pubes.

We have an idea of the wonderful degree of contraction in the bladder, and indeed the extent of motion in the muscular fibres in general, when we consider that the bladder extends so as to contain two pounds of urine, and contracts so as to force out the last drop from its cavity. When, however, the fibres are stretched too far, they lose the power of contraction, and often the young surgeon is deceived by what he conceives to be an incontinence of urine, while it is really an obstruction.

#### THE SPHINCTER OF THE BLADDER.

IF we consider the double office of the urethra, and suppose that the seminal vessels and the ducts of the prostate gland open into the canal at a part posterior to the muscles which close the orifice of the bladder, we must be also forced to admit that there is some imperfection in the mechanism of these parts. For in that case, the fluids passing from those ducts would fall back into the bladder, and the orifices of the ducts would be exposed to the urine in the bladder, even when the bladder was closed. If this were really the case, it would be inconceivable how the contents of the *vesiculæ seminales* could be discharged forwards, or how the urine could be retained while the seminal discharge was made.

By such a train of reasoning, I was led to look for the proper sphincter of the bladder behind the prostate. The importance of the knowledge of the complex apparatus of muscles about the neck of the bladder, to the comprehension of the various causes of obstructed urine, led me to review this part of the anatomy.

To exhibit the sphincter of the bladder, cut off all the appendages but the prostate gland: then make an incision into the fundus of the bladder and invert it. Begin the dissection by taking off the inner membrane of the bladder from around the orifice, or commencement of the urethra.

A set of fibres will be discovered on the lower half of the orifice, which being carefully dissected will be found to rise in a semi-circular form around the urethra. These fibres make a band of about half an inch in breadth, particularly strong on

the lower part of the opening, and having mounted a little above the orifice on each side, they disperse a portion of their fibres in the substance of the bladder. A smaller and somewhat weaker set of fibres will be seen to complete their course, surrounding the orifice of the upper part : to these sphincter fibres a bridle is joined which comes from the union of the muscles of the ureters.

Here, then, we have the muscle which closes the internal extremity of the urethra, the most posterior of all those muscles which embrace the urethra. It resembles the sphincters of the other hollow viscera ; for example, those fibres which encircle the pyloric orifice of the stomach.

**THIRD COAT.**—This third coat of the bladder anatomists have called the nervous and cellular coat ; it consists of very extensile white lamellæ of cellular membrane. It gives distribution to a few vessels, and connects the muscular fibres and inner coat.

The **INTERNAL COAT** of the bladder is very smooth on its general surface, and is bedewed with a sheathing mucus. When the bladder is distended, no inequalities are to be observed ; but when contracted, it falls into folds and rugæ. From an acrid state of the urine, from strangury, from calculus, the mucous discharge is increased, even so as to form a great proportion of the fluid evacuated from the bladder. No visible source of this mucus is to be observed on the inner surface of this membrane ;\* so that, probably, it is a general discharge from the surface. Indeed, it appears, that no follicles or cryptæ, discharging at particular points of the surface, could have the effect of bedewing and defending the whole surface from the acrimony of the urine.†

#### THE PROSTATE GLAND.

ON the neck of the bladder, and surrounding an inch of the beginning of the urethra, there is a gland nearly of the size and figure of a chesnut. This body is called the prostate gland. In all anatomy, there is not a more important subject for the attention of the surgeon than this ; he must consider the size, relation and connexion, and diseases of the prostate gland.

\* Winslow, however, describes the glands, and Hester and Haller describe follicles, near the neck of the bladder, and round the insertion of the ureters.

† When the mucous secretion is diminished by a disease of the inner membrane of the bladder, the calculous concretion more readily forms on the surface

This body is round at the base which is towards the bladder, pyramidal forward. It has a lateral division, forming it into two lobes : and the older anatomists speak of it as double. Mr. Hunter and Sir Everard Home have excited our attention to the posterior or third lobe of this gland, and have drawn the most important practical remarks from the observation of this part of the anatomy. While the prostate gland surrounds the beginning of the urethra, it rests on the rectum, and it is tied by a fascia or ligament to the back part of the os pubis. The urethra passes through it ; not in the middle, but towards its upper surface ; so that the gland is more prominent downward, and is distinctly felt by the point of the finger *in ano*. When the catheter is introduced, and the surgeon examines the state of parts by the rectum, he will first distinguish the curve of the staff, covered with the bulb of the urethra : behind this the catheter will feel more bare of parts, but still covered with a greater thickness of parts than one should expect from the description of the membranous part of the urethra. And behind this, again, he will feel the prominence of the prostate gland, not round, distinct, and accurately defined, but gradually lost both before and behind, among the surrounding cellular membrane and muscular fibres which involve it.

The texture of the gland is a compact spongy substance, and when cut has considerable resemblance to a scirrhus gland. From each lobe there are small follicles opening into the urethra, and from these ducts may be injected.\*

It has been said, that there is really no division of this gland into lobes ; but perhaps the best authority on this question is the morbid appearance. Now it happens sometimes, that only one side of the gland is enlarged, which is a proof that there is some division betwixt the lobes. This unequal swelling of the gland distorts the urethra, and gives it a direction very difficult to be followed by the catheter. In general, when equally swelled, the greater part of the gland being beneath the urethra, the urethra is raised up, so that the point of the catheter must be raised over the enlarged gland before we can pass it into the bladder.

On the lower part of the gland, and betwixt the bladder and the *vesiculæ seminales*, the third portion of the gland is situated, of which Morgagni gives this account. But if any addition is to be given, says he, to the description of the prostate gland, it is that roundish and smooth body like a gland which often our very diligent dissector has shown in the public dissections. It lies prominent betwixt the

\* As first done by Monro.



bladder and seminal capsules where they are united. Upon our most accurate examination, we find this to be nothing more than a part of the prostate itself.\* After this I can see no objection to calling this part of the prostate gland *LOBUS MORGAGNI*. Morgagni likewise observes that it is not always to be found.

The prostate gland secretes a ropy mucus. It is probable that this mucus serves to sheath the passages and preserve them from the acid urine. It certainly unites also to the seminal fluid, and is discharged with it.

The diseases of this gland form a subject too important and extended to be even hinted at here.

Anterior to the prostate gland, and also close to the urethra, are seated the GLANDS OF COWPER. This gland is also for the purpose of discharging mucus into the urinary passage. It is seated in that angle formed by the abrupt termination of the bulb of the spongy body of the urethra, and consequently close to the membranous part of the canal. It has a long duct, which, running forward an inch in length, terminates in the surface of the urethra. To comprehend the anatomy of the male urethra, we must first notice the structure of the penis.

#### THE NECK OF THE BLADDER.

On dissecting up the inner coat of the bladder, there are seen two strong fleshy columns, which descend from the orifice of the ureters towards the orifice of the bladder: they unite and run towards the prostate gland. On the surface, towards the cavity of the bladder, they are denser by the union of the inner coat of the bladder, but they are fibrous, and this fibrous structure is made manifest by dissection from below. They are larger and firmer, but of the same color and structure with the fleshy columns of the *Detrusor Urinæ*. The variety which we find in their length according with the degree of contraction of the bladder, proves their muscularity. Whatever excites the action of the bladder increases the size of these muscles in a remarkable degree, and they always acquire a great increase of power and size when the muscular coat of the bladder becomes more distinct and powerful. In some of my specimens of diseased bladder, I find the cause of this to be stone in the bladder; in others, an ulcer; in many, stricture; but always irritation and the

\* Vide *Morgagni Adversaria Anatomica, Animadversio XV. prostatae propago.*



necessity of continual action of the bladder are attended with an enlargement of the muscles of the ureters.

When contracted, the course of these columns is distinguishable all the way from the mouths of the ureters to the beginning of the urethra ; and there, at their union, they heave up the inner coat of the bladder, producing the appearance of a tubercle at the lower part of the orifice of the bladder.\*

It is still the form of the inner coat which makes these fleshy columns appear to terminate forward in the caput gallinaceum : which they do not ; they only take a firmer insertion. Where these columns unite, they are most fleshy, and their fibres are more intricate ; then, directing their course towards the lower and backmost part of the prostate, they degenerate into tendon, and are inserted into the portion called the third lobe of the prostate.

Although I have described the course of these muscles as proceeding from the back part forward, because it better corresponds with the first view we have of them, yet, I believe, it is more correct to consider their connexion with the prostate gland as the fixed point, and their connexion with the extremities of the ureters as their insertion.

USE. — The use of these muscles is, to assist in the contraction of the bladder, and, at the same time, to close and support the mouths of the ureters. The surface of the bladder, where it covers their union on the inside, is endowed with an exquisite sensibility, which is a provision of nature for their ready and instantaneous action on the stimulus to pass the urine. It is here that is seated that sensibility which produces the natural call to pass urine, and here also is the seat of diseased irritations.

It will be observed, that the orifices of the ureters are not closed by the contraction of the muscular fibres around them. They are defended against the return of the urine, by the obliquity of their passage through the coats of the bladder. It is well known that the extremity of the ureter enters through the coats of the bladder obliquely, and that in consequence of this, there is a valvular action in the coats of the bladder which prevents the regurgitation of the urine into the ducts of the kidney.

\* It is this appearance, presented by the muscles in a state of contraction, which has led so many of our best authorities to confound it with the disease of the third lobe of the prostate gland.

## THE PENIS, URETHRA, AND TESTES.

## STRUCTURE OF THE PENIS.

THE penis consists of a spongy substance, admitting venous blood, and supported by a very firm elastic covering which restrains the over distention, and gives the form. There are properly three spongy bodies. Two of these bodies are called the CORPORA CAVERNOSA PENIS, they form the body of the penis; the other is the CORPUS SPONGIOSUM URETHRÆ, a vesicular and spongy substance, which surrounds the whole length of the urethra, and expands into the bulb of the urethra in the perinæum, and into the glans on the point of the penis.

CORPORA CAVERNOSA. — The body of the penis consists of two tubes, formed of a very strong sheath. This sheath has a great degree of elasticity, but at its utmost extension, powerfully resists the farther distention with blood. These tubes are united in the greater part of the length of the penis, or rather they are parted only by an imperfect partition. Within them is a curious tissue which forms a cellular texture; into this texture the arteries pour their blood so as to occasion erection. The posterior extremities of these cavernous tubes are called CRURA PENIS: they separate in the perinæum, and each of them takes hold on the ramus of the os pubis. Forward, these cavernous bodies, or tubes, terminate in rounded points under the glans penis.

This internal tissue consists of cells connected with each other, and having a free communication through the whole extent of the penis. They are interposed betwixt the extremities of the arteries and veins, or probably while the arteries have communication, and open into the extremities of the veins, in the common way; they have such connexions with this cellular structure, that in accelerated or excited action they pour their blood into them; yet in such a manner, that the blood circulates in the penis during erection as at other times, and the blood in the cavernous body is not stagnant.

CORPUS SPONGIOSUM URETHRÆ. — Attached to the cavernous body of the penis there is a spongy body similar in structure; through this cellular or cavernous texture the canal for the urine, called urethra, takes its course, which gives rise to the name spongy body of the urethra, or *corpus spongiosum urethræ*.

The spongy body extends the whole length of the penis ; and where it extends backwards into the perinæum, betwixt the crura, of the penis, it is enlarged into a round head, which is called the *bulbous part* ; it is upon this, and on about an inch and a half of the lower part of the spongy body, that the ejaculator seminis or accelerator urinæ acts ; and, as within this enlargement of the spongy body which surrounds the urethra, there is a dilation of the tube of the urethra itself, the use of the muscle is evident. It contracts upon this sinus of the urethra when distended with the discharge of the vesiculæ, the prostrate gland, and testicle.

Forward, at the extremity of the penis, the spongy body is enlarged into the glans ; thus forming the bulbous head of the penis which crowns the conical extremities of the cavernous body.

The spongy substance which we have described, admitting the blood freely into its cells, suffers erection at the same time with the body of the penis ; and as the blood of the glans has free connexion with the blood of the bulb seated in the urethra, we may perceive that the action of the ejaculator seminis upon the back part of the spongy body must affect the whole extent of that body and the glans also. The excitement of the glans gives the action to the accelerator or ejaculator muscle ; the action of this muscle compresses the bulb, and in consequence, the whole spongy body to the extremity of the glans is made turgid, and thereby diminishes the diameter of the urethra, adapting it to the emission of semen. Sir Everard Home, I observe, supposes “that an action takes place in the membrane of the urethra, to reduce the size of the canal, and fit it for throwing out the semen with the necessary velocity.” I imagine the action of the accelerator, and the state of distention of the spongy body, resulting from it, will have this effect.

The obtuse glans spread upon the extremities of the cavernous bodies of the penis, has no communication with them. We observe a posterior circular margin on the glans ; this is the *corona glandis*, and behind this there is a depression called the cervix. About the corona and cervix there are many little glandular bodies.\*

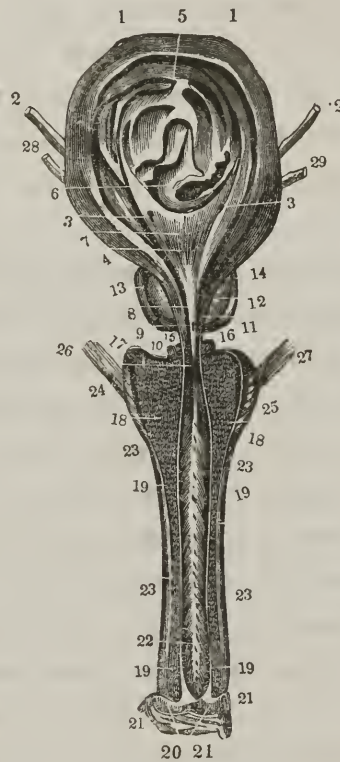
The PRÆPUTIUM is a loose prolongation of the integuments of the penis, which hangs over and defends the delicate and sensitive surface of the glans. Its inner surface is continued from the common integuments ; this is again reflected over the glans. Upon the lower side and just behind the opening of the urethra, the præpu-

\* Glandulæ odoriferæ of Tyson. See Morgagni Adversar. IV. Animad. XII. et sequent *de tuberculis Coronæ penis*.



tium is tied in a particular manner to the surface of the glans. This connexion limits the motion of the præputium, and is called **FRÆNUM PRÆPUTII**.

The whole integuments of the penis are of the same cellular structure with those of the rest of the body ; they are particularly loose and distensible, and unincumbered with fat. We may see them in emphysema and in œdema, monstrously distended.



EXPLANATION OF PLATE.

*Showing the Bladder and Urethra laid open in its whole length.*

1. The bladder, with the anterior face removed. 2. The ureters. 3. Their entrance into the bladder.
4. Neck of the bladder. 5. The superior fundus of the bladder. 6. The bas-fond of the bladder.
7. Smooth centre of the vesicle triangle. 8. Verumontanum, or caput gallinaginis. 9. Orifice of the ductus ejaculatorius. 10. Depression near the verumontanum. 11. Ducts from the prostate gland.
- 12, 13. Lateral lobes of the prostate gland. 14. Prostatic portion of the urethra. 15. Membranous portion of the urethra. 16. One of Cowper's glands. 17. Orifice of excretory ducts. 18. Section of the bulb of the urethra, with erectile tissue. 19. Cut edges of the corpora cavernosa. 20. Cut edges of the glans penis. 21. Prepuce dissected off. 22. Internal surface of the urethra laid open.
23. Outer surface of corpora cavernosa. 24, 25. Accelerator urinæ muscle. 26, 27. The erector penis muscle. 28, 29. The vasa deferentia.



## THE URETHRA.

THE urethra is the canal for emptying the bladder. It extends from the neck of the bladder to the extremity of the penis. It is formed of the continuation of the inner and third coat of the bladder, which last forms a reticular membrane, uniting the inner membrane to the spongy body. It is, however, supported through all its length, near the bladder, by passing through the prostate gland and sphincter fibres; further forward than this, where it passes from the prostate to the beginning of the spongy body of the urethra, it is invested and supported by firm ligamentous membranes and muscles; and in all the length of the penis it is included in the spongy body, which extends from the bulb to the glans. It cannot be described as a cylindrical canal, for it is closed unless distended with urine, and admits of very unequal distension. It begins large at the neck of the bladder; where, immersed in the prostate gland, it forms a little sinus; it is contracted again in a remarkable degree behind the bulb: it dilates into the SINUS of the URETHRA, within the bulbous enlargement of the spongy body; it is gradually diminished forward; and it may be considered as cylindrical, or equal in its diameter from this part forward to the point of the glans, where it is much contracted. There is still another sinus or dilatation of the canal described, the *fossa navicularis*, where the urethra is surrounded by the glans.\*

The canal of the urethra is bedewed with mucus. The sources of this mucus are here particularly apparent; bristles to the amount of seventy, may be admitted in the mouths of the little ducts. Besides the general surface and the glands which I have described, there are large lacunæ observable; into which mucus is secreted, and from which, as from receptacles, it is pressed out as the urine flows.† The inner membrane of the urethra is very delicate, and, when torn by the catheter, or by violent chordee, or opened by the caustic, bleeds profusely.

\* Haller Com. lib. xxvii. sect. 1, § xxx. Sir E. Home on Strictures. Observ. de partibus genitalibus sexus potioris Sandif. Thes. VIII. p. 71.

† These are the *Canalicula Morgagni*, Advers. Anat.—De glandulis urethræ vide Morgagni Adversar. IV. An. vii. et sequent. There is much controversy and much confusion regarding the glands of the urethra, viz., *Prostatæ minores*; *glandulæ Cowperianæ*; *glandulæ Littreanæ*, &c. The reason of which I believe to be that the *lacunæ* do not appear glandular unless when they have suffered by inflammation; there is no round smooth body attached to them, unless their secretions have been increased, and the cellular membrane and vessels are condensed around the lacunæ.

The internal membranes of the bladder and urethra, are particularly sensible; drawing after them, when excited, not only the action of all the muscles in the lower part of the pelvis, but having sympathies in a particular manner with the testicle, stomach, and bowels, and with the whole system. The more curious and important effect of the injury of the urethra, is the paroxysm of fever which it induces. Observing the regular occurrence of an intermitting fever in cases of fistula in the perinæum, we should imagine it to be the effect of the extravasation of the urine in the cellular membrane, and the effect of general irritation, until it is observed that the simple stricture produces that effect, and that a touch of the caustic brings on a violent paroxysm.

When the reticular membrane is inflamed, of course it loses its elasticity, and gives pain in erection. Sometimes the inflammation, being continued to the spongy body surrounding the urethra, makes it unequal in its capacity of distention to the cavernous bodies of the penis, and sometimes their cells are united by adhesion in the worst cases of chordee.

I cannot imagine with some, that the urethra is muscular; *first*, because I see no end it could serve in the economy; *secondly*, because there is no proof in support of the opinion; *thirdly*, because it is surrounded with strong fibres and a spongy body, which conjointly seem calculated for every purpose of the economy, and likely to account for every symptom which might be mistaken for spasmodic action in the canal itself. The idea of muscularity is derived from the symptoms of stricture and the irritability of the canal.\*

The urethra is very elastic; not only allowing a very large bougie to be passed, and closing upon a thread, but it still more remarkably admits of elongation than of distention in the width of the canal. It is surrounded, as we have seen, with a spongy body, and the cellular coat which is betwixt the delicate lining membrane of the urethra and the spongy body; it partakes of the structure of both, and is very elastic. But when an inflammation attacks the canal, this cellular membrane is its principal seat. The point affected loses its elasticity; no longer stretches with the penis and urethra, but consolidates, or forms a strong membranous filament. To

\* Morgagni describes the membrane of the urethra as double, having vessels betwixt its laminæ. These are the veins described by Dr. Barclay. *Observ. Anat.* p. 1, tab. IV. J. C. Brims. *Sand. Thes.* VIII., describes two laminæ, one of which he considers to be the continuation of the muscular coat of the bladder. See a paper of Mr. Shaw's in the *Medic. Chirurg. Trans.*

suppose this stricture to have been formed by the muscular contraction in the diameter of the canal, would be to allow the partial action of one or two fibres ; (for the stricture is like that which would be produced by the tying of a packthread round the canal, being a narrow circular ridge ;) which is very unlikely. Sometimes, however, the stricture is only on one side of the canal, which, allowing it to be formed by inflammation, is very likely to happen : but in consequence of the muscular action, cannot easily be supposed to take place, since the drawing of the muscular fibres would equally affect the whole circle.

As to the effect of heat and cold on an obstruction, it may be explained easily, without the supposition of muscular contraction ; for as we know that the spongy bodies, and of course the whole canal, relax and elongate in warmth, as they are shrunk up and contracted in cold, like the skin of the body in general, without implying muscular contraction : so we see how this state would affect a stricture ; — that, when the penis and the urethra were shrunk, the effect of the stricture would be increased, and the patient could pass his urine only when the parts were relaxed, by sitting in a warm room, or by the use of the bath.

But when surgeons speak of spasms of the urethra, they seem to forget the action of the surrounding muscles. Thus acrid and stimulating urine, or an irritable state of the urethra, will be followed by a small stream of urine ; or perhaps a temporary obstruction is the consequence : but why should we suppose that the membrane of the urethra, which has no appearance of muscularity, causes this effect when it is probably produced by the sphincter muscles, the fibres which surround the membranous part of the urethra, the levator ani, and, above all, by the accelerator urinæ, a muscular sheath of fibres surrounding three or four inches of the canal. Round the membranous part of the urethra, and behind the bulb, there is much interlacing of muscular fibres : and the levator ani, splitting, embraces it. Round the sinus of the urethra, and the bulb which covers it, is the accelerator urinæ, more properly the ejaculator seminis. In short, here is a whole class of muscles which sympathize with the state of the urethra ; and these muscles, disordered in their action when the canal is inflamed, give occasion to those contractions which are attributed to the membrane of the urethra itself.

## THE TESTES.

THE TESTICLE might be considered as more naturally connected with the abdo-



minal viscera, than with those of the pelvis, as its original seat is on the loins amongst the abdominal viscera, and as it receives its coats from the peritoneum, its vessels from the abdominal vessels, and its nerves from the plexus belonging to the vital parts.

The testicles are two glandular bodies which secrete the semen ; they are seated in the scrotum, and are covered and protected by several coats ; they receive their vessels from the aorta and cava, or the emulgent vessels ; their excretory ducts run up into the belly, and terminate in the urethra near the neck of the bladder.

The SCROTUM, in which the testicles are lodged, is a continuation of the common integuments ; its cellular membrane is particularly lax and free from fat, and the water of the anasarca is extremely apt to fall down into it, so as, sometimes, to distend the scrotum to a transparent bag of enormous size ; and not unfrequently the cellular texture here has been blown up to counterfeit rupture and other diseases.

OF THE DARTOS. — The cellular substance of the scrotum is peculiar in its appearance, being red and fibrous. It has been considered as a muscle, and called DARTOS ;\* although this is denied by many. Its action is to support and brace the scrotum ; and in bad health,† and in old age, is so much relaxed as to allow the testicle to hang upon the cords. But besides the simple corrugation and relaxation, the scrotum has a motion like the vermicular motion of the intestines, obliquely and irregularly from side to side. Its contraction has a relation to the healthy secretion of the gland within, and when for some obstinate disease of the body of the testicle blisters are applied to the scrotum, we may see this muscle in great activity rolling round the testicles. The straight fibres of the *cremaster* muscle could not, I imagine, perform this revolving motion, and therefore, I conclude, that the dartos is a muscle on a testimony better than is to be had from dissection.

There may be traced from the web of cellular membrane which covers the abdominal muscle, a kind of imperfect expansion descending upon the testicles. This becomes very strong when hernia has taken place at the ring.‡

SEPTUM. — Upon the surface of the scrotum, directly in the middle, there is a line passing from the lower part of the penis to the anus — the RAPHIA. This line marks

\* Veterum.

† Nurses attend to the state of the scrotum in children.

‡ *Mouchart* de hern. p. 14, tab. 2, *Garengcot. Haller. Monro.* — I have, during operation, separated this into three laminæ.



a division in the scrotum, a partition, or septum, which divides the scrotum into two distinct cellular beds for the testicles.

**COATS OF THE TESTICLE.\***—The *cremaster* muscle is expanded over the proper coats of the testicle. The origin of this muscle is from the internal oblique muscle of the abdomen. It passes through the hole of the external oblique muscle called the *ring*, and descends over the vessels to the testicle, constituting a part of the cord and finally spreading its fibres over the *tunica vaginalis testis*. Its use is to suspend and draw up the body of the testicle.

Under the fibres of the muscle, we may discover a process of cellular membrane which comes down from the cellular membrane behind the peritoneum, and has been usually called a process of the peritoneum, even before the coats of the testicle were discovered to be originally formed by that membrane.

Besides the involving scrotum, each testicle has distinct coats. The *TUNICA VAGINALIS*, according to our best authors, covers the testicle loosely; that is, without adhering to its general surface: but the *albuginea* is in close union with it, and is the immediate coat of the testicle. The inner surface of the vaginal coat is perfectly smooth, and an exudation is poured out from it, as from the peritoneum within the belly. The outer surface of the *tunica albuginea* is also smooth and firm, and white, whence its name; but on its inner surface, like the peritoneum, which covers the intestine, and adheres to the muscular coat, it adheres to the proper substance of the testicle. These investing coats are, in some respects, dissimilar, yet in general much alike, one being continued into the other, and both prolongations of the peritoneum. The outer membrane, the *tunica vaginalis*, is a protection to the testicle by gliding easily on the inner coat; and aided by the mobility of the cellular membrane of the *dartos*, it preserves the testicle from bruises and strokes to which it would be exposed if it were more firmly attached. The inner tunic, or *albuginea*, gives strength to the substance of the testicle. Betwixt these coats is the fluid collected, which forms the *hydrocele*. They also contain the congenital hernia; but the common hernia is without both coats of the testicle. To understand the

\* Dr. W. Hunter discovered the situation of the testes in the abdomen of the fœtus, and suggested this to his brother as a subject of investigation. Mr. J. Hunter distinctly described the anatomy of the descent of the testicle, and explained the formation of its coats. See his *Animal Economy*. In reading *Kirckringius*, one is apt to believe he understood the nature of the descent of the testicle. *Spicilegium Anatomicum*, p. 35.

anatomy of this part thoroughly we must attend to the descent of the testicle, and to the manner in which these coats are formed.

#### THE DESCENT OF THE TESTICLE.

IN the fœtus, some months before birth, the testicles are lodged in the belly, and are, in every respect, like the abdominal viscera. They are seated on the fore part of the psoæ muscles by the side of the rectum. They are covered and invested by the peritoneum; for as we have explained how the solid viscera and the intestines are behind the peritoneum, so it will be understood how the testicle lying on the loins are behind the peritoneum: that is to say, the glandular substance of the testicle is invested by a coat, and that coat is the peritoneum, which, after covering the body of the testicle, is reflected upon the loins; as the coats of the liver, for example, are to be traced from its surface to the diaphragm.

We have explained the change which takes place in the situation of the testicle, as it relates to the peritoneum; but how this change is brought about, it is very difficult to understand. It is not a sudden pulling down of the testicle, but a very gradual process, continuing for months: it is not the effect of gravitation, for the fœtus may be in every variety of posture while in the womb, and generally the head presents. It is not respiration. Is it then the effect of the action of the cremaster muscle? or must we refer it to a law such as that which controls and directs the growth of parts?

When the parts in a fœtus before the descent of the testicle are dissected, there is found a ligamentous, or cellular chord, mingled with the fibres of the cremaster muscle, and which takes its origin from the groin, is reflected into the abdominal ring, and stretches up to the body of the testicle. This body is called ligament, or gubernaculum, and to the agency of this bundle of fibres, is the descent of the testicle attributed. There are, however, objections to this. If we suppose that the cremaster muscle, by its exertion, brings down the testicle to the ring, how does it pass the ring? For surely we cannot suppose that this muscle, which takes its origin from the internal oblique muscle, consequently within, can contract, not only so as to bring the testicle to the very point of its origin, but to protrude it past that point, and through the tendon of the external oblique muscle. Animals have the cremaster muscle, whose testicles never descend out of the belly; — again, the vessels of the

cord, before the testicle has fully descended, show no marks of being dragged down, for they are elegantly tortuous.

As the testicle passes very slowly from the loins to the ring; so, after it has escaped from the belly, it passes slowly from the ring to the bottom of the scrotum. It commonly remains some time by the side of the penis, and only by degrees descends to the bottom of the scrotum.\*

In this change the testicles do not fall loose into the elongation of the peritoneum like a piece of gut or omentum in the rupture; — but carrying the peritoneum with them, they continue to adhere to the parts behind them, as they did to the psoas muscle while in the loins; a point of importance to be recollected.

The communication betwixt the belly and the sac of the vaginalis, is very soon obliterated by the adhesion of the upper part, and then the whole extent of the passage is shut. When this process is prevented in the first instance, and nature is balked in the humor of doing her work, as Mr. Hunter observes, she cannot so easily do it afterwards.

It has also occurred, that this communication remaining after birth, a hydrocele has been produced, owing to the distention of the tunica vaginalis, by fluids descending from the belly. The character of such a tumour will be, that the fluid may be easily forced into the belly. It may be mistaken for a congenital hernia.

It will already be understood, that in the common hernia of the groin or scrotum, the gut does not pass by the communication from the belly into the vaginal coat; that such communication no longer exists, and that when there is a rupture from preternatural wideness of the abdominal ring, or in consequence of a great violence, a new portion of the peritoneum descends with the gut before the cord of the testicle.

When we dissect the coats of the adult testicle, we can follow the tunica vaginalis over the surface of the testicle, and by dissecting, separate it from the testicle, leaving that body covered by a dense membrane. Specimens may be seen in my Collection, where hydatids, forming betwixt these membranes, have separated them in a manner still more satisfactory than can be done by dissection. What terms are we

\* Mr. Hunter has shown, that the detention of the testicle in the belly is in consequence of some defect and want of action in the testicle, and that those who have the testicle remaining in the belly have it imperfect or small. This is contrary to an old authority: — The testicles are seated externally, “for chastity’s sake;” for such live wights as have their stones “hid within their body, are very lecherous, do often couple, and get many young ones.”



to use for these three membranes ! 1. *tunica vaginalis* ; 2, *tunica vaginalis reflexa* ; and 3. *tunica propria testis*.\*

#### THE VESSELS OF THE CORD AND TESTICLE.

IN attending to the descent of the testicle, we have a clue also to the vascular system. If we did not know that the testicles were originally placed in the loins within the belly, we might wonder at the length and origin of the spermatic vessels.

The SPERMATIC ARTERY rises on one side from the fore part of the aorta, below the emulgent artery, and on the other from the emulgent artery, sometimes they arise from the arteries of the renal capsule ; sometime there are two spermatic arteries to one testicle. This artery, which the cord receives from the aorta or emulgent, is called the superior spermatic artery, because there is another which rises from the hypogastric artery ; this branch runs upward, connected to the vas deferens, as it rises out of the pelvis. Another artery is given to the membranes of the testicle from the epigastric artery.

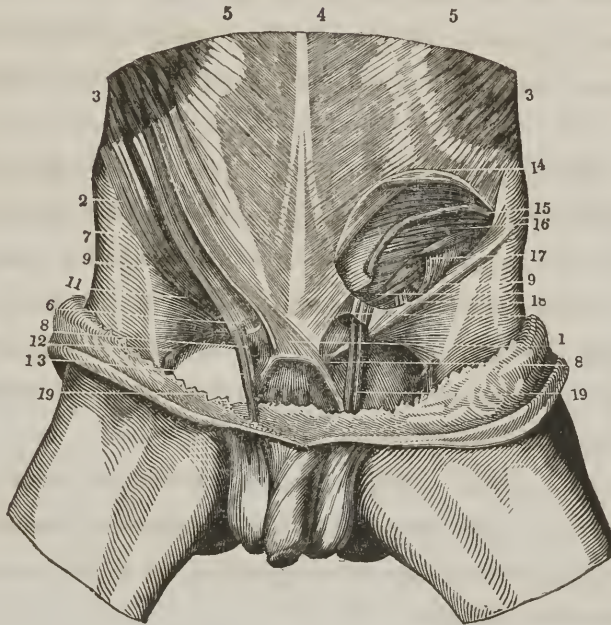
These arteries, taking their course under the peritoneum, join the fasciculus forming the cord, and supply the cord, and send twigs to the investing peritoneum ; they then pass through the abdominal ring, and in their course they are beautifully tortuous.

The VEINS of the testicle terminate on the right side in the trunk of the cava, a little below the emulgent vein, and in the emulgent vein on the left side. There is also (accompanying the vas deferens) a vein, which joins the internal iliac vein. All these veins, in their course from the testicle, are protected from the column of blood, and from the consequences of compression, by numerous valves. These valves are very strong, and will bear a great column of mercury before they give way or burst. This plexus of convoluted veins of the cord is the most beautiful in the body ; and we may observe, that such convolutions of veins are ever attendant on arteries tortuous in their course, and subject to occasional excitement. And further, if by accident there is excited an uncommon action in the arteries of a living body, that action

\* *De Graaff* speaks of the division of the tunica albuginea into two membranes, probably meaning to distinguish the cellular tissue of the body of the testicle from the investing membrane. *Morgagni*, in his commentary on him, tells us he can separate the tunica albuginea into two lamina, the inner of which was the most delicate. *Advers. An. iv. Animad. i.*



will be apparent from the distended or enlarged state of the veins. In the testicles of such animals as have their seasons, the artery and veins of the testicle become still more convoluted, and form a mass of vessels, which has been called *corpus pyramidale*.\*



EXPLANATION OF PLATE.

1. Symphysis pubis. 2. Anterior and superior spinous process of the ilium. 3. External oblique muscle. 4. Linea alba. 5. Lineæ semilunares. 6. Abdominal rings. 7. Origin of some tendinous fibres. 9. Poupart's ligaments. 11. Fascia lata of the thigh. 12. Saphena major vein of the leg. 13. Fascia which arises from Poupart's ligament and joins the fascia lata. 14. Tendon of the external oblique muscle. 15. Internal oblique muscle. 16. Transversalis muscle. 17. Internal inguinal ring. 18. Epigastric artery and vein. 19. Spermatic cord, formed by the spermatic artery and veins, the lymphatics of the testicle, the nerves, and the vas deferens, or the duct conveying the semen from the testicle to the urethra, which it enters through the prostate gland near the neck of the bladder.

The nerves of the testicle, like the blood-vessels, come from the loins ; they form a division from the emulgent plexus, and are continued down upon the vessels.

\* *Corpus varicosum*. — *Corpus Pampiniforme* ; *Alias parastatum varicosum* ; *Galen de Semine ; Util. partium*. — As the old physiologists saw and observed this wonderful tortuosity, and the tendril-like form of the spermatic artery, they thought that the blood was here begun to be changed into semen. and therefore they called them the *vasa præparantia*.

This connects the testicles to the abdominal viscera, giving them much of the same sympathies. The stomach, intestines, and testicle, sympathize readily with each other.

The lymphatics of the testicle are numerous, and easily demonstrated by blowing up the cellular structure of the body of the testicle ; and this has been the ground of dispute between physiologists ; and the proofs of some important points in the doctrine of absorption have been drawn from the injection of the lymphatics of the testicle and cord.

The CREMASTER MUSCLE takes its origin from the internal oblique muscle of the abdomen, from the os pubis, and, passing down over the vessels of the cord, is expanded on the tunica vaginalis. The use ascribed to it is to suspend the testicle, and prevent it from dragging upon the vessels of the cord ; but it is chiefly useful in compressing the body of the testicle, drawing it up, and accelerating the discharge of semen. A very principal use is to compress the veins of the cord, and to support them against the impulse from within.

Thus we find the cord of the testicle, as it is called, to consist of the excretory duct ; of the arteries, veins, and nerves ; of the lymphatics returning from the testicle ; of the cellular tissue embracing and supporting all these vessels ; and lastly, of the fibres of the cremaster muscle.

#### THE STRUCTURE OF THE TESTICLE.

It is to De Graaff that we owe the knowledge of the structure of the testicle ; and indeed the merit of this great anatomist has not been acknowledged with sufficient gratitude by modern anatomists : but after the fervor of disputation has subsided, the merit of ingenuity and of discovery must return to him to whom it is due. No one more highly values than I do the improvements of anatomy by the Hunters and Monro ; but I must say, that the structure of the testicle was demonstrated by De Graaff to his fellow anatomists of Montpellier ; and his discoveries published in a manner so perfect, as to leave us little to learn from more modern authors.

De Graaff, by exciting the gland of brutes, and tying the spermatic cord, had the seminal vessels distended. He did not depend upon injections ; by maceration and dissection in this distended state, he unravelled all the intricacies of their tubes. More modern anatomists have proved the truth of his observations by injections of mercury, and have succeeded in a variety of ways of preparing the testicle.

**TUBULI TESTIS.** — When the tunica propria testis is lifted, the body of the testicle is found to consist of innumerable delicate white tubes ; which, when disentangled from the minute cellular membrane which connects them, and floated in water, exhibit a most astonishing extent of convoluted vessels. By a closer attention, however, to this structure, before it is thrown into confusion by pulling out the tubes, they appear to be regularly laid in partitions of the cellular membrane. These septimenta are very regular in some animals, and while they separate the seminal tubes, they support and convey the blood-vessels for the secretion of the semen. Dr. Munro has denied the formal divisions which De Graaff had engraved, but admits them less regular, less easily found, and not so limited in number ; nor does he find that they prevent all communication betwixt the tubes of the testicle.

These seminiferous tubes of Haller, or tubuli testis of Monro, run towards the back of the testicle. Each of these tubes seems to be cylindrical, or of one diameter throughout their whole extent : we see no communication betwixt them ; no branches given out or going into them ; nor have I been able to distinguish a beginning for the whole, nor for any one of them. There seems to be only one tube wonderfully convoluted and folded up in each subdivision of the testicle.

**RETE TESTIS.** — When the tubuli come out from the body of the testicle, they run along the back of it and communicate by inosculations with each other, so as to form a net-work of vessels, from which appearance Haller named them rete testis.

Here it often happens, that the mercury stops, when it has been injected backwards from the vas deferens ; and it is this part which has been better described and drawn, in consequence of mercurial injections, than it was by De Graaff ; for he, as we have said, saw this part only filled with semen.

Connected with the rete testis is the **CORPUS HIGHMORIANUM.** — Where the lines of the membranous septa, and cellular membrane of the testicle meet on the back of the testicle, and under the epididymis, they form a white line. This white line running along the testicle, was supposed by Highmore to be a hollow tube ; it was compared with the salivary duct ; it was thought to be a cavity leading from the body of the testicle to the head of the epididymis, and to form the communication by which the semen flowed from the testicle. De Graaff first refuted this notion, and showed that it was not by this one great duct, but by these smaller tubes forming what has been now called the rete testis, that the semen came from the testicle : still it had continued a question, whether this white line was really solid, or a tube ;



and upon faithful examination of the point it appears, that this is expressly as it was explained by De Graaff, viz., that it is a mere collection of the membranes of the body of the testicle, forming *linea alba*; and as the septa are more distinguishable in some animals, so is the *corpus Highmorianum*.\*

**VASA EFFERENTIA.** — The tubes running on the back of the testicle, and forming the rete testis, we have understood to arise from the tubuli testis; now it is the continuation of the rete testis which is called vasa efferentia. The vasa efferentia are very delicate vessels which run out from the head of the testicle, single at first, but

FIGURE 1.

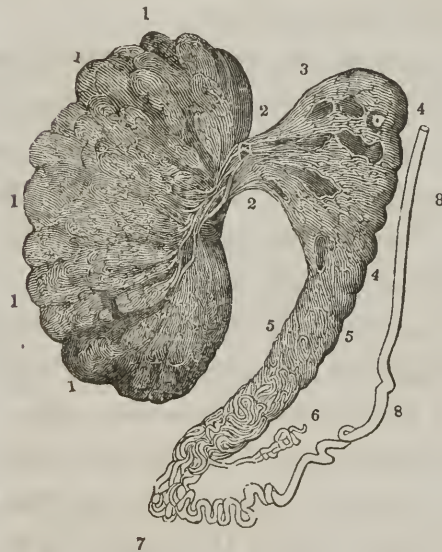


FIGURE 2.



## EXPLANATION OF PLATES.

*Figure 1*, delineates the human testis injected with mercury. 1. Lobules formed by the seminiferous tubes. 2. The vasa efferentia. 3. The flexures of the efferent vessels passing to the head of the epididymis — marked 4. 5. The body of the epididymis. 6. Appendix. 7. The cauda. 8. The vas deferens, or seminal duct.

*Figure 2*, is a plan of the structure of the testes and epididymis, showing the seminiferous tubes which convey the semen from the tubuli seminiferi, and discharge it at last into the vas deferens, or great seminal duct, that terminates in the prostatic portion of the urethra. 3. Seminiferous tubes; \* \* \* their anastomoses. 4. Rete testis. 5. Head of the epididymis. 6. Body of the epididymis. 7. Vas deferens, or great seminal duct. 8. Cauda. 9. Appendix. 10. Vasa efferentia. 11. Flexures of the efferent vessels passing to 5, 5, the head of the epididymis.

\* This body is called a mere *firmentum* or binding. — Winslow.



they are soon convoluted, and by these convolutions they are formed into an equal number of *vascular cones*, which constitute the head or larger part of the epididymis. These vasa efferentia and vascular cones are connected by a very delicate cellular membrane; and it is a piece of very nice dissection to display them after they are injected with mercury.

EPIDIDYMIS. — The vasa efferentia, after forming these conical convolutions, unite, and form larger tubes; these again unite, and form one large excretory duct, the *vas deferens*; and this vessel, being convoluted to a wonderful degree, forms a body, which, being as it were placed upon the testicle, has been called epididymis.

In the substance of the testicle there are no glands nor follicles; the arteries minutely ramify amongst the seminal tubes, and, there is reason to believe, secrete the semen into them. The seminal vessels in the substance of the testicle, or tubuli testes, run together upon the surface of the testicle, and form the rete testis. From the rete testis are continued the vascular cones: these convolute, and running together, form the epididymis; from which the tube is continued under the name of the vas deferens. It passes up the cord, enters by the ring into the abdomen, and then, passing down into the pelvis, terminates in the vesiculæ seminales, in a manner presently to be explained. It is not likely that the vis a tergo, the power of the arteries, pushes the semen through all this length of tube, of which the epididymis itself is reckoned to be several feet in length if the various convolutions were undone; such an action on the testicle as that of the dartos or cremaster muscle, could give only a general pressure, but could not force on the semen in tubes which take so great a variety of directions. We are therefore left to the supposition, that these tubes themselves have a power of accelerating the fluids through them.

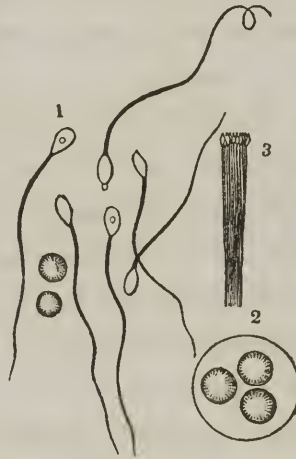
There is a duct which sometimes arises from the epididymis, and which we find to terminate abruptly in a blind end — of this, Mr. Hunter speaks in the annexed note.\*

\* “By a supernumerary vas deferens, I mean a small duct, which sometimes arises from the epididymis, and passes up the spermatic cord along with the vas deferens, and commonly terminates in a blind end, near to which it is sometimes a little enlarged. I never found this duct go on to the urethra, but, in some instances, have seen it accompany the vas deferens as far as the brim of the pelvis. There is no absolute proof that it is a supernumerary vas deferens; but as we find the ducts of glands, in general, very subject to singularities, and that there are frequently supernumerary ducts, there being often two ureters to one kidney, sometimes distinct from beginning to end, at other times both arising from one

## THE TESTICLE IN GENERAL.

THE testicle is of an oval form, and of the size of a pigeon's egg ; it is a little flattened on the sides : it hangs in the scrotum by the spermatic cord ; one end of the oval, forward and high. The spermatic cord consists of the artery which brings blood ; of the veins which return it ; of the vas deferens, which carries the semen to the vesiculæ seminales at the neck of the bladder ; of lymphatics, which are essential to the structure of every part. This cord of vessels comes down from the belly, and passes by the ring of the abdominal muscles ; it is about four inches in length, and is fixed into the upper and back part of the body of the testicle.

## HUMAN SPERMATOZOA.



## EXPLANATION OF PLATE.

1. The spermatozoa ; they are quite transparent, and consist of a flattened head and a large tapering tail. 2. Seminal granules, from which the spermatozoa are developed. 3. The spermatozoa from the developed granules, lying side by side within the vesicle, which change from a sphere to a long oval. After a time they break forth, but still adhere to each other for a short period, forming a bundle.

pelvis : these ducts arising from the epididymis, I am inclined to believe, from analogy, are of a nature similar to the double ureters. They resemble the vas deferens, as being continuations of some of the tubes of the epididymis, are convoluted where they come off from it, and afterwards become a straight canal passing along with it for some way, when they are commonly obliterated.

“ The idea of their being for the purpose of returning the superfluous semen to the circulation is certainly erroneous, from their being so seldom met with, and so very seldom continued further than the brim of the pelvis.”

The body of the testicle is easily distinguished, and is the place where the secretion is performed. It is strictly the body of the gland, while the part above it is only the duct by which its fluid is discharged.

Before the years of puberty, the testicles secrete a viscid, milky fluid, which does not possess the qualities of semen. At the age of puberty, the semen is secreted and a revolution at once commences in the whole system. The voice becomes manlike; the beard is developed; the bony and muscular systems are increased, and the boy at length emerges into manhood. All these striking changes are evidently connected with the new secretion of the seminal fluid, and indeed, the removal of the testicles prevent them from taking place, as is seen in the case of eunuchs.

#### THE VESICULÆ SEMINALES.

BEHIND the prostate gland, and attached to the lowest part of the urinary bladder, lie two soft bodies, the vesiculæ seminales. They appear like simple bags when seen from without, but dissections show them to consist of a cellular structure; each of these bodies is about three fingers-breadth in length; their backmost point is large and round, and, at the same time that they diverge from each other, their narrow points unite, or are contiguous to each other forwards, and enter at the back part of the base of the prostate gland.

As we have seen, the peritoneum does not descend far enough betwixt the bladder and rectum to cover or invest these vesiculæ; they are therefore involved in the cellular texture, and covered with strong fibres, besides being subject to the compression of the levator ani muscle. When the vesiculæ are cut into, and especially when they are distended, dried, and cut, they appear cellular; but if they are carefully dissected, they present the appearance of a convoluted duct.

This cellular appearance is produced by the duplication of their inner membrane, together with the distortions and curves of the canal. Their outer surface is covered with a fine membrane, which connects these cellular convolutions.

The vesiculæ are copiously supplied with arteries: their surface is covered with veins and lymphatics. Heister, Winslow, and others, have described small glands seated in their sinuosities; but these are confidently denied by others. These vesiculæ are themselves glands, or in other words, the arteries secrete into them a peculiar fluid. The fore part of each of the vesiculæ, which we have said sinks



into the back part of the prostate gland, runs under the neck of the bladder, and opens by a distinct mouth into the urethra, on the surface of the verumontanum.

The connexion of the vas deferens with the vesiculæ is very particular: the duct and the extremity of the vesicular tube join, and they together open into the urethra.

There is nothing in the human structure to discountenance the idea that the semen may pass retrograde from the vas deferens into the vesiculæ seminales, but, as in some brutes, the vas deferens has no connexion with the vesiculæ seminales, it is to be presumed that they are not mere receptacles of the secretion of the testicles.

The extremity of the vas deferens joins the duct of the vesiculæ where it is imbedded in the prostate gland; the union of the vas deferens and duct of the vesiculæ is not attended with an enlargement of the duct; on the contrary, as the duct passes forward deep into the substance of the gland to arrive at the urethra, it becomes remarkably narrower until it opens in a very small orifice in the verumontanum. The duct (if we may so call it), of the vesiculæ passes a considerable way into the gland before it terminates in the urethra.

The vesiculæ appear to be useful in adding a fluid to the secretion of the testicle, which being poured together into the sinus of the urethra, are then sufficient to distend this part of the canal by which the ejaculator muscle is excited, and effect given to its action; for a smaller portion of fluid would not be carried forward by its contraction. Unless there were a provision of fluid sufficient to distend the sinus of the urethra, the semen could not be thrown out from the urethra. This supposition is not opposed by the facts stated by Mr. Hunter, that in many animals the vesiculæ and vasa deferentia open by distinct foramina into the urethra, because in that case the fluids of these secreting bags might be equally mingled with the semen in the sinus of the urethra, although they do not flow from the same tube.

**VERUMONTANUM.**—The verumontanum, or caput gallinaginis, is an eminence on the lower part of the urethra, where it is surrounded by the prostate gland. It is larger and round towards the bladder, and stretches with a narrow neck forwards. On its summit, the two orifices of the seminal vessels open; and around it there are innumerable lesser foramina and mucous follicles, the ducts of the prostate gland.

The **SINUS POCULARIS** is the sac or large lacuna formed within the caput gallinaginis; its mouth is directed forwards, so that the urine flowing out of the bladder lays the margin down, and as the seminal orifices open within the margin, they are by this means protected from the urine. Sometimes the ducts are found opening on the sides of the sinus.



## CHAPTER II.

### ANATOMY OF THE FEMALE PARTS OF GENERATION.

The Anatomy of the Female Pelvis.—The External Parts of Generation.—The Urethra.—Parts contained within the Female Pelvis.—Bladder of Urine.—The Vagina; its shape, connexions, &c.—The Uterus.—The Blood-vessels of the Womb.—The Ovaria.

THE parts of generation are divided into the external, which are those without the pelvis; and the internal, or viscera of the pelvis, and which lie within the bony circle of the true pelvis.

#### THE EXTERNAL PARTS OF GENERATION.

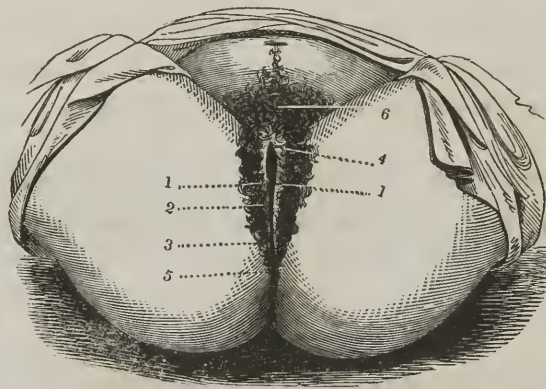
THE external parts of generation are the mons veneris, labia, clitoris, nymphæ, urethra, hymen, and carunculæ myrtiformes. Upon these subjects we have no want of books and information; for accoucheurs of the old school dwelt upon the description with particular accuracy. These parts were within their ken, which we cannot say of the viscera of the pelvis: and therefore upon this first head we shall be more brief.

In very young children these external parts bear a large proportion to the body, greater than at any subsequent period before the age of puberty. From the age of two years to twelve or thirteen, there is little increase. At puberty they are suddenly completely evolved. Preceding menstruation and the development of the uterine system, the whole parts, internal and external, partake of a sudden impulse. They become turgid and vascular; the fat is deposited in the surrounding cellular membrane.

About the fortieth year, when the menses disappear, this fulness of the private parts also ceases, and the fat is re-absorbed.

THE MONS VENERIS is that prominence on the symphysis pubis, which consists of the skin raised and cushioned up by the fat inclosed in the cellular membrane.

There is a great variety in the size. In early life it is small : it becomes, as we have said, more prominent at the age of puberty ; in fat women it is of an enormous size : and in some warm climates a particular laxity prevails. From the hair on this part, marking the age of puberty, it is called pubes. As the lax texture admits of distention with the fluid of anasarca, it is sometimes from this cause very greatly swelled.



EXPLANATION OF PLATE.

*External Organs of Generation in the Unmarried Female, the Labia Majora being closed.*

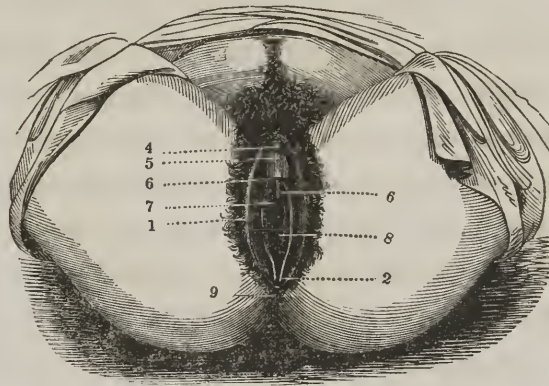
1. Labia Majora. 2. Rima or Fissura Vulvæ. 3. Fourchette — Posterior Commissure.  
4. Anterior Commissure. 5. Perinæum. 6. Mons Veneris.

**THE LABIA.**—These are often named alæ, from a slight resemblance to wings, and they are also called alæ externæ, magnæ, or majores, from their place, and from their superiority in size over the nymphæ. The labia seem to be the mons veneris continued downward and laterally, until meeting below, they complete the circle of the vulva ; at their lower angle by their union they form the fourchette, or frænum labiorum. The structure of the labia is similar to that of the mons veneris ; sometimes one is larger than the other.

The great sensibility of the membrane which lines the inside of the labia requires some defence, and therefore the whole surface is amply supplied with mucous follicles and glands. The labia are a protection to the other soft parts. If the clitoris or nymphæ project beyond them, they are subject to violent inflammation.

The parts here have either such folds, or are of so lax a texture, as to permit a

great degree of distention during the passage of the child. But as the labia have no muscular power, and depend entirely on their elasticity for restoring them to their original size, they commonly, after being very much dilated, remain in some degree larger and more lax. It is different with muscular parts, as the orificium externum, which, by the power of its sphincter, is restored after labor to its original size. In man, hernia descends from the abdominal ring into the scrotum; but, in woman, when there is a rupture from the ring, (which is rare) it falls into the labium.



EXPLANATION OF PLATE.

*A View of the External Organs of Generation in the Unmarried Female.*

1. Labium Majorum. 2. Fourchette. 3. Prepuce Clitoridis around the glans clitoridis. 4. Vestibulum. 5. The Nymphæ. 6. Points to the Meatus Urinarius. 7. The Hymen. 8. The Perineum.

The NYMPHÆ are named labia vel alæ, or labia interna, to distinguish them from the great labia. They are like a miniature representation of the great labia; they are covered with a very delicate membrane, and have great sensibility. They begin immediately under the glans clitoridis, and seem to be only an extension of its præputium, formed by a folding of the membrane. Their size varies much. They commonly stretch downward and backward to the middle of the orifice of the vagina; sometimes no further than to that of the orificium urethræ, and in a few instances they extend even in the length of the fourchette.\* They are very vascular and have somewhat of a cellular structure, and thus partake of a degree

\* Both Riolin and Morgagni have seen the parts without the nymphæ.



of turgidity, in consequence of irritation and vascular action. The most modest of the uses ascribed to them is, that of directing the stream of urine. As they are obliterated during the passage of the child's head through the vulva, it is probable that they facilitate the necessary dilatation.

The nymphæ are, in their natural situation, covered and completely protected by the labia externa. When naturally large or increased by disease, or in a very relaxed state, they are deprived of this covering: they project from under the labia and are apt to become inflamed and even to ulcerate. The original disease or tumor, is augmented, or they become, perhaps, hard and callous. In children they bear a very great proportion to the other parts, and are more conspicuous and prominent than in the adult. When enlarged by disease they sometimes require to be extirpated, in which operation, as they are very vascular, and as with their growth their blood-vessels enlarge, considerable hæmorrhage may be expected.

The CLITORIS is similar to the male penis. Like the penis, it consists of cells for receiving blood; and in a similar manner, it arises from or takes hold of the rami of the os pubis by two crura; these unite at the symphysis pubis, to form the body of the clitoris, which is suspended from the os pubis, like the penis, by a kind of ligament. The clitoris has also a kind of glans, over which the integuments make a fold like a præputium. In short, it has the same sensibilities, the same power of erection with the membrum virile; only it has no urethra nor spongy body, like that of the urethra of man, and is so small as to be hid within the labia.

The stories of the increase of this, even to its pre-eminence in size over the penis, are very idle. It is not wonderful that a clitoris of such magnitude should suggest the idea of a hermaphrodite, or a person partaking equally of the distinguishing attributes of either sex.

#### THE URETHRA.

THE urethra of the female is short, straight, and wide; its length an inch and a half, or two inches; its direction nearly straight, or only slightly bending under the os pubis; and its diameter such as will admit a catheter the size of a writing quill. The consequences of these peculiarities are, that the catheter is easily passed when there is no very unusual obstruction; that women are not so much exposed to the disease of stone in the bladder as men, for though this is much owing



to constitutional peculiarities, yet it is obvious, that when a small stone is formed, and passes into the bladder, it is more easily discharged in this sex. If it does not pass with the flush of urine, yet the canal can be dilated, so that a very considerable calculus may be discharged without incision.

The opening of the urethra is in a direct line under, or behind the clitoris, and about an inch from it; it is in the middle of a slight prominence, and its vicinity is plentifully supplied with mucous glands. If the relation of the orifice to the clitoris be observed, there is, in the natural state of the parts, no difficulty in slipping the point of the catheter, on the end of the middle finger from the clitoris, until it is caught upon the lacuna-like orifice of the urethra.

From the length and sudden turns of the male urethra, from the double function it performs, and from its being embraced by the prostate gland, the obstructions of the urine are more frequent, and the catheter less easily passed, than in woman. The catheter, too, requires to be of a very peculiar form. The short and wide urethra of woman requires only a simple and almost straight tube: and although accurately to adapt it to the course of the urethra, a considerable curve might be given to it, yet that is not necessary in common cases; and circumstances will occur to the accoucheur, which will preclude the possibility of using such an instrument.

We shall only mention here such cases of obstruction of urine as are in a particular manner illustrated by the anatomy and connexion of the parts. These are tumors of the ovarium, tumors of the womb, polypi, distention of the vagina, displacement of the womb, as procidentia, prolapsus, retroversio, &c.; and lastly, the child's head, in labor.

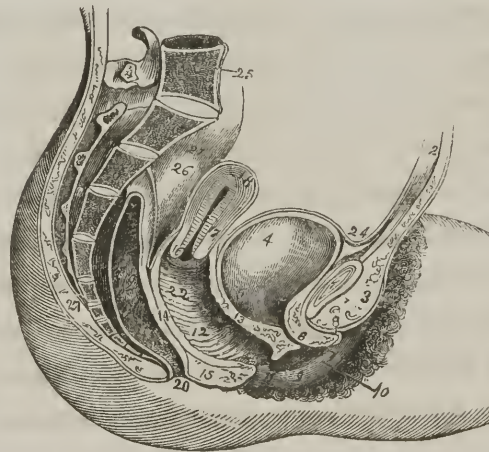
The ovarium being enlarged, and falling down into the pelvis, either presses upon the neck of the bladder, causing obstructions, or pressing and weighing on the fundus of the bladder, it occasions a *stillicidium urinæ*.

Tumors of the womb, especially of the neck or orifice, as it is in contact with the urethra, very soon affect this organ. Thus I have seen a cancer of the orifice of the womb, by exciting inflammation in all the surrounding parts, and by massing them together into a tumor filling the pelvis, occasion obstinate obstructions of the urine.

Polypi attached to the orifice of the womb, and filling the vagina, produce the same effect. In all such cases, perhaps the tumor may be pushed up, so as to permit the flow of the urine, or the introduction of the catheter.

A case occurred to John Bell, in which the tumor of the womb compressed the neck of the bladder. A catheter was passed, and gave instant relief. The midwife, after some time came, and said the catheter would not pass. He found that he could pass the catheter into the bladder, but no urine flowed ; and it was discovered that the tumor, increasing backward, came to press upon the ureters, so as completely to obstruct them where they enter the bladder. The woman unavoidably died : each kidney and ureter was found to contain four or five ounces of urine.

A sketch of the parts in the female pelvis will, perhaps, better explain the connexions of the neck of the bladder than any description, and will certainly better illustrate the cause of some kinds of obstruction, particularly that arising from the change in the posture of the womb.



EXPLANATION OF PLATE.

*A Side View showing a portion of the Internal Female Organs of Generation.*

1. Symphysis pubis. 2. Abdominal parietes. 3. The fat forming the mons veneris. 4. The bladder  
5. Entrance of the left ureter. 6. Canal of the urethra. 7. Meatus urinarius. 8. The clitoris and  
its prepuce. 9. The left nympha. 10. The left labium majus. 11. The orifice of the vagina.  
12. Its canal and transverse rugæ. 13. The vesico-vaginal septum. 14. Vagino-rectal septum.  
15. Section of the perineum. 16. Os uteri. 17. Cervix uteri. 18. Fundus uteri. 19. Rectum.  
20. Anus. 21. Upper portion of the rectum. 22. Recto-uterine fold of the peritoneum. 23. Utero-  
vesicle reflection of the peritoneum. 24. Peritoneum reflected on the bladder from the abdominal  
parietes. 25. Last lumbar vertebra. 26. Sacrum. 27. The coccyx.

The retroversion of the womb is the most formidable obstruction to the urethra. It is produced by distention of the bladder acting on the womb in a particular situation, and is the cause of suppression of the urine. When the womb in the third or fourth month of gestation has increased so much as to produce a degree of compression on the surrounding parts, and to rise above the brim, and shoot up into the abdomen, a distention of the bladder is apt to throw the fundus under the projection of the sacrum. We have to observe the connexion betwixt the back and lower part of the vagina. By the distention of the bladder, the vagina is stretched, and the orifice of the womb is raised, which throws back the fundus of the womb, so that this comes to be the situation of the parts.

Now, when the fundus of the womb is thrust back, and the orifice raised by the distention and consequent rising of the bladder, the natural and simple cure is to introduce the catheter, and draw off the urine. But should this not be done at first, then there being distention of the bladder, and pressure on the rectum, the abdominal muscles sympathise with these parts, so that bearing-down efforts are made, and the fundus of the womb is forced further down into the hollow of the sacrum while the orifice is directed upward.

Were this distention to happen at any other time than just when the uterus is of such a size, that being thrown back, it catches under the sacrum, and does not rise again, no harm could follow. I attended a woman afflicted with obstruction of urine, who died. I afterwards opened the body, and found that the womb being enlarged by disease had produced much the same effect as if it had been enlarged by pregnancy, viz., obstruction of the urethra; for the body of the womb had fallen into the hollow of the sacrum, and had formed adhesions there with the rectum while the orifice of the womb pressed forward upon the os pubis, so as to produce an obstruction of the urine. The parts were otherwise diseased, but this was the cause of the fatal termination of the complaint.

As we treat of those subjects only as connected with the urethra, we may observe, that sometimes the urethra takes a course not round behind the os pubis simply, nor straight upwards, but curved backwards, so that the convexity of the catheter requires to be towards the sacrum, to allow the point to pass over the orifice of the womb, or perhaps the flexible, or the male catheter, may be required.

The effect of the wedging of the child's head in a tedious labor, is to elongate and compress the urethra in a very particular manner. Many young men



have felt the difficulty of introducing the catheter in this case. But it is a difficulty proceeding generally from ignorance or inattention. I believe there never occurs a case in which the child's head is so firmly impacted, that the catheter cannot be passed. But often practitioners forget the direction which the urethra necessarily assumes, when the child's head has sunk into the pelvis.

ORIFICIUM VAGINÆ.—This is also named ORIFICIUM EXTERNUM, in distinction to the uterine orifice. I notice it under the head of the external parts, because we have to speak of the parts which surround the orifice, as the hymen.

All anterior or external to the orifice of the vagina and within the labia is the vestibulum. The orifice of the vagina of the human female is abridged by the hymen, which is a peculiar membrane. It is of a semi-lunar form, and sometimes surrounds the lower part of the orifice of the vagina; commonly it surrounds only the lower half of the circle, though it would seem to vary considerably in shape, place, and strength. It has been found surrounding the whole circle of the orifice, leaving only a small hole in the centre or upper part; or it is described as perforated with lesser holes, allowing the evacuation of the menstrual blood. In other cases it has been found a complete septum, preventing the evacuations of the menstrual blood.

This is a fact which I do not dispute, for I know that the perforation for the evacuation of the menstrual blood is sometimes necessary. When I have seen the imperforate vagina in the child, it was not the hymen which closed the orifice, but an adhesion of its sides; yet this adhesion, if it had come to be distended with the menstrual blood of several periods would have presented the appearance of a tense membrane stretched across the orifice.

Such semi-lunar membrane as I have described, will occasionally be seen in the female parts; but it has such an appearance as may easily be destroyed in the preparation of the parts, if the anatomist be inattentive or careless. It is neither a guard, nor is its existence a test of female chastity. Often in tender children there is no such thing to be seen: while on the other hand, it has been cut to admit of labor and delivery.\* Either of these facts is sufficient proof of the idle notions entertained concerning this membrane, and that when present it is like a contracted præputium in the other sex, a defect.

\* I need not say how unnecessary and improper such operations are. All rigidity, callosities, even tumors, and undoubtedly the hymen, will yield to that general relaxation of all the parts, which takes place upon the commencement of labor.



The *CARUNCULÆ MYRTIFORMES* are small irregular tumors at the back or lower part of the external orifice : they are seated rather at the sides than exactly at the back part ; they are supposed to be the ruins of the hymen, which being lacerated, shrinks into two or three tumors on each side. Some have said, that these exist originally joined together, by a thin membrane, or delicate tissue of small vessels, the rupture of which causes an effusion of blood. They seem to be simply corrugations of the inner membrane, which serve as a provision for the dilatation of the parts ; and they accordingly disappear during the passage of the child's head.

The *FOSSA NAVICULARIS* is a sinus supposed to be of the shape of a boat whence its name. It is formed betwixt the proper orifice of the vagina and the fourchette, or joining of the labia at their lower edge. It is more conspicuous in young subjects.

From the meeting of the labia below, the *PERINÆUM* commences ; it includes the space from the frænum to the anus.

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#### PARTS CONTAINED WITHIN THE FEMALE PELVIS.

THESE parts are the bladder of the urine, the vagina, the womb, the ovaria. We shall consider them under distinct sections.

#### THE BLADDER OF URINE.

As the coats of the bladder of urine in women do not vary from those of the male bladder, we have under this head only to notice the peculiarities in its relative situation. It is seated behind the os pubis, and betwixt it and the womb ; and on its lower part it is attached to the vagina ; upon the neck of the bladder, or the beginning of the urethra, there is not a body like the prostate gland : and as we have seen, the urethra is short, wide, and straight, and simple in its use.

Women are not subject to calculi, and the operation for the stone is rare in them ; for, as already observed, when the nucleus is formed, or when a stone slips down from the pelvis of the kidney, it passes from the bladder with much greater facility than in the male parts. The urethra of itself has been known to dilate so as to

allow very large stones to pass, or it has been artificially dilated. Indeed the old operation for lithotomy was rudely to dilate, or rather tear, the urethra, and the modern operation is simply to thrust the gorget along the grooved staff, so as to lay open the side of the urethra and neck of the bladder, by an incision above the vagina. Sometimes nature has effected her own relief by the stone working from the neck of the bladder into the vagina. A woman had for a very long period suffered great distress, not only frequent desire to make urine, and the urine turbid and bloody, but all the usual symptoms of stone violently aggravated ; she was delicate and timid, and concealed her distress, until the urine had run for some time by the vagina. After she had been exhausted by long suffering, her friends insisted that she should allow an examination, when a stone was found partly in the bladder, with one of the rough ends projecting into the vagina. The opening was enlarged, and the stone extracted.

We must, in all cases, recollect the connexion of the upper part of the vagina and orifice of the womb, with the back part of the bladder. We have seen its effects in producing *retroversio uteri*. We must also attend to this connexion, as tending to the displacement of the bladder in the *procidentia uteri*. The uterus sinking into the vagina, and the upper part of the vagina being at the same time reflected into the lower part, pulls down the bladder with it, and when (the disease increasing) the womb, covered by the vagina, comes to hang from the external parts, it has happened that the bladder has sunk down and lain upon the fore part of the tumor, but of course within the everted vagina.

#### THE VAGINA ; ITS SHAPE, CONNEXIONS, ETC.

THE vagina is a tube stretching from the external orifice to the orifice of the womb. Its orifice is bounded below by the *fourchette* ; above by the arch of the pubis ; and directly over it, or sometimes within it, is the orifice of the urethra ; below, are the *carunculæ myrtiformes*. It is surrounded by fasciculi of fibres, which are called the sphincter muscle. The canal of the vagina is of a conical form. At the outer orifice it is constricted by the sphincter muscle : but it is wider within, where it receives the orifice of the womb. It may be distended to almost any degree ; but naturally its sides, by their own elasticity, the fulness of the veins which are upon it, and the contraction of the surrounding fibres, are in contact.

In the natural state, the orifices of the vagina and womb are but three or four inches distant, often only two; and sometimes where there is a degree of relaxation, they are nearly in contact. In the first months of pregnancy, the orifice of the womb is kept down by the degree of difficulty the body of the womb has in shooting up from the brim of the pelvis. But the gravid uterus rising above the pelvis in the latter months, draws up the orifice of the womb and stretches the vagina.

The vagina bends gently round the pubis, or follows the axis of the pelvis; and as the interior of two circles cut off by the same radii is the shorter, the vagina is longer behind than before.

The vagina takes its curve nearly in the centre of the pelvis; it is of necessity attached by cellular substance to the rectum and bladder. The urethra, as we have said, opens above the orifice, and that canal is attached to the vagina in its whole length, the neck of the bladder being attached to its upper part. In consequence of this natural connexion, disease of the vagina sometimes throws the whole parts, the rectum, vagina, and bladder, into one fistulous ulcer.

The vagina has three coats; that is to say, it has the inner coat, a few muscular fibres dispersed around it, and exteriorly a condensation of the surrounding cellular membrane, which may be considered as the third coat.

The internal or villous coat, is a reflection of the delicate covering of the external parts. It is of larger extent, or longer than the others; and is therefore tucked up into rugæ, which run across the vagina. They are more remarkable on the fore and back part of the vagina; they are less in married women, and considerably obliterated by repeated labors.

To supply a viscous secretion for the defence of this surface, there are mucous glands irregularly scattered over it, and they are particularly numerous at the orifice.

The muscular coat is not very strong, nor are the fibres distinct, from which some have doubted their existence, alleging, that there is here only condensed cellular membrane; and that the contraction of the vagina, is the effect of mere elasticity.

I observe so great a profusion of venous vascularity, that I presume the vagina suffers an inflation of its coats, and consequently contraction from an afflux of blood to it. The muscular fibres are, however, as we have said, gathered into fasciculi near the orifice, so as to be distinctly visible.



The firmness and structure of the vagina supports the womb ; the dilatation of the vagina, the relaxation which old age, and frequent labors produce, occasion the falling down of the womb. It is a disease almost peculiar to those who have borne many children, to the old, weak, and relaxed, and to those who are subject to the fluor albus : every flux from the womb or discharge from the vagina, having a remarkable effect in relaxing the parts.

This, from the nature of the parts, must be an increasing disease ; for no sooner has the womb fallen down into the vagina, than it becomes a source of irritation, excites a bearing-down pain like tenesmus, an uneasy sensation, a desire to make urine, and an obstruction of urine : all which is explained by the connexion of the parts. The womb lodging in the vagina dilates the orifice, and presses long on the perinæum ; at last it is entirely forced out, and the prolapsus uteri becomes the procidentia uteri ; it is in truth a hernia of the womb.

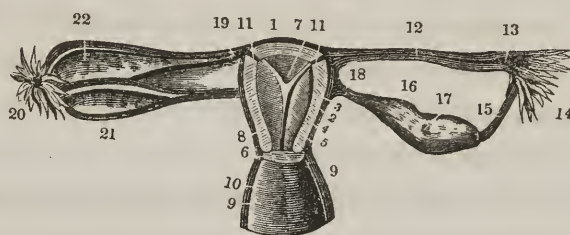
The third and outer coat, as we have said, is formed of the cellular membrane, by which it is connected with the surrounding parts ; but the peritoneum comes down upon the higher part of the vagina. This is the reason why a portion of the intestine, when it slips down betwixt the vagina and rectum forms a kind of hernial tumor in the vagina, and it explains how the water of the ascites has pushed down the back of the vagina, so as to be felt externally ; indeed, the water of dropsy has been drawn off by puncturing here.

For the greater space, however, the outer cellular coat of the vagina connects it with the urethra on the fore part, and with the rectum behind. From which close connexion of parts, we see the consequence of the delay of the child's head in the second stage of labor, that the head lies violently distending and compressing the parts, while the woman, exhausted by the previous stage, is unable to complete the delivery. From violent inflammation, with a deficiency of secretion, there arises a cold and flabby state of the parts. When the woman is delivered, the parts have suffered so much, that they slough off : sometimes the urethra is laid open on the fore part, and sometimes the rectum behind.

#### THE UTERUS.

The uterus or womb, is a firm vascular body of the size of a pear, and in shape not unlike what you may conceive of a flattened pear. At its upper and lateral

parts it terminates in the Fallopian tubes : and the *os tincæ*, or lower part, projects into the vagina. We must, for the convenience of description, distinguish it into these parts :—The upper part is called *FUNDUS* ; it is the part above the going off of the Fallopian tubes : the *BODY* of the uterus, which is the larger part betwixt the fundus and the narrow neck ; the *CERVIX* is the narrow neck ; and the *OS TINCÆ* or orifice is the lower part, formed of bulging lips, which project into the vagina : over this part the inner membrane of the vagina is reflected. We distinguish also the two surfaces, for the womb is of a flattened form. The anterior surface of the body of the womb is convex, but the posterior surface is considerably more convex than the anterior, and even during gestation it keeps this relative figure.



EXPLANATION OF PLATE.

*The Ureters, Fallopian tubes, the Ovaria, and a part of the Vagina, of a Female of sixteen years.*

*On one side the tube and ovary is divided vertically ; the other side is untouched. The Anterior Portion of the Uterus and Vagina have also been removed.*

1. Fundus of the uterus. 2. Thickness of its parietes anteriorly. 3. External surface of the Uterus. 4. Section of the neck of the uterus. 5. Section of the anterior lip. 6. Its posterior lip untouched. 7. Cavity of the uterus. 8. Cavity of its neck. 9. Thickness of the walls of the vagina. 10. Its cavity and posterior parietes. 11. Openings of fallopian tubes into the uterus. 12. Cavity of the left tube. 13. Its pavilion. 14. Corpus fimbriatum. 15. Its union with the ovary. 16. Left ovary vertically divided. 17. Vesicles in its tissue. 18. Ligament of the ovary. 19 Right fallopian tube untouched. 20. Its corpus fimbriatum. 21. Right ovary. 22. Broad Ligament.

The whole size of the uterus is about three inches in length, and two in breadth, but there is a very great variety in this respect, from age, the effect of pregnancies, and other causes. When, in its usual situations and relations, the fundus is on a level with the brim of the pelvis, or a very little below it. In the fœtus, the womb is, like the bladder, considerably above the brim of the pelvis ; but in a few weeks

the pelvis enlarging, it sinks deeper and soon assumes the same situation as in the adult.

**FALLOPIAN TUBES.**—From the lateral obtuse angles formed betwixt the fundus and the body of the uterus, the Fallopian tubes are continued. These tubes may almost be considered as a continuation of the uterus, did not we find them so very distinct in their substance. They are about three inches in length, take a tortuous course, and their extremities have an unequal fringed termination, which is called *FIMBRIÆ*.\* Their canal is very small towards the uterus, but enlarges; and is open towards the extremity. These canals are the communications by which the ovum formed in the ovarium is carried down into the womb.

**LIGAMENT OF THE UTERUS.**—The uses ascribed to the ligaments have been to support the uterus from sinking too deep in the pelvis, and to steady it, and direct it in its ascent during pregnancy. But whatever good they may do in the latter operation, they are certainly unfit for the former.

There are four ligaments of the uterus.

The **BROAD LIGAMENT** of the uterus is formed of the peritoneum; for this membrane passing down before the rectum, and ascending again, and covering the neck, body, and fundus of the womb, descends on the fore part, so as to reach the vagina before it rises over the bladder. Thus it invests the womb as it does the abdominal viscera. This investing of the womb with the peritoneum is indeed a provision for its becoming an abdominal viscus, for in pregnancy it rises out of the pelvis, and being distended before the bowels, assumes in every respect that relation to the peritoneum which they have.

As the womb is included betwixt the duplicature of the peritoneum, it is this peritoneal coat which is continued off laterally, and forms the broad ligament of the womb. This duplicature of the peritoneum, forming a fine membrane, has sometimes had the name of *ALÆ VESPERTILONIS*: it is in truth like a mesentery to the womb and Fallopian tubes, and serves equally to support and convey the vessels to them. The womb and these two ligaments make a complete partition running across the pelvis.

From the side of the uterus, a little below, and before the going off of the Fallopian tubes, the **ROUND LIGAMENTS** arise. They are not merely condensed and

\**Morsus diaboli*.



elastic cellular membrane : but are composed of fibres with an intermixture of blood-vessels, so that whilst they keep a degree of tension on the uterus, they yield and grow not only in length, but in thickness and strength, as the uterus ascends in advanced pregnancy : they pass through the abdominal ring, and are attached to the cellular membrane of the top of the thigh. In the gravid uterus, both the broad and the round ligaments considerably alter their position, appearing to rise lower, and more forward from the womb than in the unimpregnated state. This is a consequence of the greater increase of the fundus of the womb, in proportion to the lower part of it.

What I have here described, and which are commonly called the round ligaments of the uterus, are the tendons of the muscles, and have a very particular use which authors have not observed ; at their upper extremity they terminate in a muscular coat which is spread over the fundus of the uterus diverging from the tendon. The use of these tendons is to move the uterus in the first approach of labor, and to present the orifice of the uterus to the axis of the pelvis.

The triangular cavity of the uterus is lined with a peculiar soft and delicate membrane ; it is very vascular, and the vessels either open on the surface naturally, or bursting out from time to time, pour out the menstrual blood. The canal of the cervix shows a very different surface. We observe a prominent longitudinal line on the fore and back part of it, from which oblique and transverse rugæ go out. The surface is firmer and callous, and less vascular. Betwixt the rugæ there are lacunæ, which throw out a mucilaginous fluid ; and towards the orifice we see these larger and sometimes distinct glandular bodies. This peculiar shape of the cavity of the womb, and the hardness and small degree of vascularity of the lower part is of the most essential importance. The upper part, the proper cavity of the womb, is prepared for the reception and immediate adhesion of the ovum, when it shall have descended through the Fallopian tube ; but the long callous cervix is provided, that there may be no adhesion to the lower part of the womb, and that the placenta may not form over the orifice of the womb, for if it should, the most dangerous kind of flooding takes place on the approach of labor, from the opening of the orifice, and the tearing open of the adhesions of the placenta, before the child can be delivered. The length of the cervix, and the glandular structure of the orifice, are also of much importance in sealing up the cavity of the womb after conception, that there may be no longer communication with the vagina : for this purpose, a viscid tenacious mucus is poured out ; but, on the approach of labor with the softening and relaxa-

tion of all the soft parts, this adhesion and gluing up of the orifice is dissolved, and a more fluid secretion is poured out.

From the cavity of the womb the **MENSTRUAL BLOOD** is discharged at certain periods, from the time of puberty to the approach of old age, when the system is no longer capable of giving nourishment to the fœtus.

It was long disputed from what source the menstrual discharge flowed. Some affirmed that it must flow from the vagina, and not from the womb, because it flowed sometimes during gestation. This is a fact which cannot be denied. I have attended a patient who menstruated during the entire period, or to the eighth month; and I have often observed ladies to menstruate at the first period after conception. On the other hand, we have every proof of the discharge being from the orifice of the womb. For instance, some have observed on dissection of the parts of women dying during the flow of menses, that blood was effused under the delicate membrane of the cavity of the womb. The vessels there have been observed particularly turgid, or the whole surface of the proper cavity, and especially the fundus, spotted with bloody effusions. More particular observation has shown not only the mark of blood poured out from the inner surface, but that the whole substance of the womb was become thick, soft and vascular;\* and M. Littre affirms that in the body of a woman who had died during menstruation, and with a conception in the Fallopian tube, he found in the womb a layer of red coagulated blood; upon removing which he saw a number of small foramina which admitted bristles.†

But the best and least equivocal proof is that which has been repeatedly observed in the inversion of the womb, when the inner surface has been turned out after labor, and has remained thus inverted, and protruding from the external parts, for then the menstrual blood has been seen to distil from the surface of the cavity of the uterus.

#### THE BLOOD-VESSELS OF THE WOMB.

There are four large arteries which supply the system of the womb, and four large veins which return the blood.

\* The authorities upon this subject are Spigelius, Morgagni, M. Littre, Moriceau, Winslow, Sympson.

† This might have been an early abortion, or perhaps the decidua, which it is said is sometimes formed at the menstrual period.

The SPERMATIC ARTERIES come down from the aorta itself, or from the renal or capsule arteries. The spermatic artery taking a waving direction, becomes tortuous in a most remarkable degree, as it approaches the uterus; it is distributed to the Fallopian tube, the ovarium, but chiefly to the body and fundus of the uterus, where it forms remarkable anastomoses with the artery of the other side.

The LOWER ARTERY—the UTERINE ARTERY, comes in general from the hypogastric artery, takes also a serpentine course, and is distributed to the vagina, and the lower part of the uterus, and inosculates largely with the other vessels, both in the uterus, and by particular branches on the side of the uterus.

In the first place, it appears that this copious supply of vessels to the uterus, from four different sources, is a provision that the womb and secundines shall not by any accident of position, or by the progress of labor and the consequent compression of one or both the lower vessels, be deprived of their due supply of blood. Again, their tortuous forms give proof of their occasional greater activity, that they admit of a peculiar and local action during menstruation, and that the blood will move more languidly when the stimulus of the wound has ceased. It is also a provision for the growth and increase of the womb, and the supply of nourishment to the ovum. And that an increased activity in a part must be supplied by a more tortuous form, as well as an enlargement of the calibre of the vessels, is in a particular manner illustrated by the change which takes place in these vessels during pregnancy; for they become in a much more remarkable degree tortuous and enlarged.

The substance of the uterus is said to be spongy and compact, which, though it is a seeming contradiction in words, does yet really convey an idea of the effects of the intertexture of vessels in it. Some have said (as Moriceau), that by pregnancy the womb is distended, and grows thinner; others that it grows thicker, as Davenport; and others again, as Smellie, assert that it continues of its natural thickness. These assertions are none of them perfectly correct; for the womb is not distended by the growth of the fœtus and membranes but grows with them. Again, that the substance of the womb grows in a remarkable degree is true, but still when distended by the waters in the last month of pregnancy, its walls are thinner than in the unimpregnated state. Thus, when it has been cut in the living body, upon the approach of labor, as in the Cæsarean section, I have observed it not more than a quarter of an inch in thickness, even at the part to which the placenta adhered.

When I have dissected the womb after a tedious labour, the waters discharged,



but the head wedged in the pelvis, I have found it considerably thicker. And, lastly, in the full contraction of the womb, after expelling the fœtus and placenta, (for example, in rupture of the womb, where the child and placenta had been forced amongst the bowels, and the woman soon after died,) I found the walls of the womb more than an inch in thickness.

#### THE OVARIA.

THE OVARIA, are two oval bodies which are suspended in the broad ligament behind, and a little below the Fallopian tubes : while they have an oval figure, they are, at the same time, somewhat flattened. But cutting out the ovaria, the animal loses the power of conceiving, and desire is extinguished ; they, therefore, bestow what is essential to generation upon the part of the female. In vague speculations on the subject of generation, they were supposed to prepare a female semen ! but more particular examination demonstrates that they consist of vesicles which are ova ; but how far incomplete, or in what essential circumstance requiring the approach of the male is not determined.

When we hold the section of the ovarium betwixt the eye and the light, we see a great many pellucid vesicles ; and if we examine the ovarium of an animal killed in full health, and particularly in the season, we shall observe these ova to be in all varieties of states of preparation for impregnation. Some small and pellucid, and yet only discernible in the thick outer coat, by having a degree of greater transparency : others which have taken a slight tinge of bloody color from vessels striking into them ; and if the section be made after a minute injection, the vesicles will be seen colored in proportion of their maturity ; some without a speck of color : others tinged : one or two loaded with injection ; and some vascular, and particularly prominent.

In very young girls, the substance of the ovarium is whitish, and very soft ; the surrounding membrane is thick : and the round corpuscles scarcely discernible ; and no irregularities, nor any of those bodies called corpora lutea, are to be seen on the surface. But as the girl advances in years, the little vesicles begin to appear, and when about ten years of age, or just before menstruation, the ovarium is full of ova of various sizes, and some of them more matured, and forming an eminence upon the surface. In the adult woman, the substance of the ovarium which appeared as

an uniform homogeneous mass in the foetus, is become a cellular and vascular bed, giving nourishment to those numerous vesicles or ova. Before impregnation can take place, there must be a certain state of preparation of the ovaria, without which the approach of the male effects no change in the uterine system. The lower animals having their seasons, and these seasons being a state of preparation for the male, impregnation follows the copulation with much certainty; in women such a periodical revolution in their system, and instinctive desires, would but ill accord with that superiority in attributes of the mind, which distinguish us in the scale of beings. But women also suffer such an occasional excitement in the uterine system, though unaccompanied with desire, which preserves the womb in a state of preparation for the reception of the ovum, and the ovaria in a state of preparation for impregnation. This is the effect of menstruation.

# VENEREAL DISEASES.

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## CHAPTER III.

### INTRODUCTORY REMARKS.

VENEREAL DISEASES defined. — Why is man afflicted with them? — They are not to be considered as punishments for sin. — When and where did the syphilis originate? — Its modern origin. — Its first appearance in Europe. — Its frightful effects in Otaheite. — Nature of the syphilitic virus. — Its chemical properties. — Gonorrhœal virus. — Its action supposed, formerly, to be identical with that of syphilis. — Syphilitic chancre and bubo. — Constitutional effects. — Secondary symptoms. — Government action necessary to extinguish these diseases.

BEFORE entering upon the particular description and treatment of venereal diseases, you will wish to know something of their nature and history.\* Since when, and why has humanity been thus afflicted? Such questions are natural. But it is not easy in all cases to answer them. It is the melancholy province of science, too often, to point out the extent of our ignorance, and to discover the barriers beyond which investigation and reason can never pass.

Venereal diseases, in the widest sense of the words, are those which arise from or are incident to the sexual connexion. In a more restricted sense, this term is applied to the two forms, syphilis and gonorrhœa, which are produced by the contact of two distinct poisons, or two species of venereal virus.

If you ask why man alone, of all the animal creation is thus afflicted — is thus subject to the effects of this contagion — I am without an answer. The human race increases and multiplies in the same way as the higher orders of animals; yet, in man, a virus is developed and communicated, which produces disease and death, in its most repulsive forms. That which produces the whole train of syphilitic symptoms upon man, produces no effect upon other animals.

\* It may be stated in explanation of the personal style of this work, that, originally, it was prepared as a course of lectures.



You may ask a bolder question : Why is man afflicted with this disease at all—why, in the gratification of his most powerful and necessary instinct, is he liable to be inoculated with a terrible poison, which may affect him and his posterity ? Science does not answer such questions. You may as well ask, why the plague ; why the small pox ; why the hundreds of diseases which afflict our species ? They who are anxious to “vindicate the ways of God to man,” will answer, that all diseases proceed from the violation of some natural law.

To the inconsiderate, this answer, may seem sufficient : but it will scarcely account for the ravages of the plague which for so many centuries swept over Europe ; for the appearance of the small pox, which apparently took its place, and so long desolated nations, until a preventive was discovered in inoculation with the vaccine virus. It will scarcely account for the appearance of the Asiatic cholera, and its terrible and mournful march around the world. We cannot even give a reasonable answer to the question, why man should be liable to die of the slightest taint of the virus of hydrophobia ? What law has he violated, or what sin committed ? The most innocent child may be most liable to suffer.

It has been affirmed that the Creator has inflicted this disease, as the penalty of transgression. It is not without good reason that we must combat views like these. The same might be said of other diseases, and might be a ground for denying them proper treatment. Were such the fact, it would have existed in all countries and all ages ; it would fall only, or most heavily, upon the most guilty. Such is not the case : and we must look upon syphilis, and upon the whole class of venereal diseases, as accidents to which humanity is subject, and which it is our duty to prevent if possible, to relieve, and to cure.

Let me be understood. These diseases are not, I say, inflicted as punishments for individual transgression. Is it the fault of the innocent babe, that it is born with an ophthalmia, caught of its mother, at the very moment of its entrance into the world ? Is it the fault of the infant, that its blood is poisoned in the first moment of its foetal life, and that its future existence is burdened with the most painful and revolting diseases ? Is it the fault of the pure and chaste woman, who contracts a venereal disease from her husband, who comes to her loving embraces, reeking from a brothel, and infects her, and his offspring, while he escapes the contagion ?—for all this is possible !

No, gentlemen, we must give up, as false and unphilanthropic, the idea that these

diseases are intended as the punishment of individual guiltiness. We must look upon them as misfortunes, and not as the consequences of crime. I have found in my practice that it is not the confirmed rake, or the hardened debauchee, who is affected with venereal diseases. They use caution—they avail themselves of preventive measures, or at the worst, they apply immediately to the physician and are cured in the outset. It is the comparatively innocent and unsophisticated, who are the most likely to contract disease, and in whom its worst effects are developed. It is even true, as I shall have occasion to repeat hereafter, that one may become hardened against at least one form of venereal disease, so that the same cause which would affect others, will have upon him no effect whatever.

If we are at a loss for any reasonable or proper answer, to the natural question, why was man made liable to venereal diseases, it is not much less difficult to answer the questions which follow, the “when?” and “where?”

\* There is reason to suppose that the milder form of venereal infection, the strictly local disease of the urethra, and other mucous surfaces, may have existed, with some modifications from time immemorial. It is undoubtedly true that leprosy was most commonly communicated by sexual intercourse, and that some other affections of the genital organs may have been, under certain circumstances, contagious : but it is as certain that the disease now called *syphilis*, produced by a specific virus, and developed in the *chancre*, *bubo*, and the *secondary* and *tertiary* symptoms, is of modern origin, in the civilized world, as any fact can be, which is not mathematically demonstrable.

Dr. Adam Clarke, a theological writer, and author of a commentary upon the Bible, having assumed that syphilis was a punishment inflicted upon man, for adulterous sexual intercourse, endeavors to show that Moses alludes to this disease ; but his theory is unsupported by the words of the Hebrew lawgiver. “A running issue,” or a voiding of “the seed of copulation,” though a cause of ceremonial uncleanness, according to the Mosaic law, will not answer as descriptions of this terrible disease ; and we cannot but smile when we see a respectable physician quoting one of the Psalms of David, to prove that the monarch of Israel, the man after God’s own heart, was affected with the syphilis, caught from his wife, the mother of Solomon, from whom, according to the new testament genealogy, was descended Christ. Yet this is the strongest argument for the ancient existence of syphilis, gravely put forth in a work recently published in the city of New-York !

Had syphilis existed in the early ages of the world, as the same specific disease it has been for the last three centuries, it would have depopulated whole nations. Fire and brimstone, need not have rained upon Sodom and Gomorrah. We know that promiscuous sexual intercourse and prostitution existed not only among the Jews, but to a far greater extent among the surrounding nations. They revelled in luxury and lust. Greece was famous for the number of her courtezans, as well as their beauty and accomplishments ; the people of Corinth offered prayers in the temple of Venus, that she would increase their numbers, so advantageous were they thought to the prosperity of the city. In certain islands, every woman was a prostitute, and to offer themselves to all strangers was considered as one of the sacred rites of hospitality.

Greece, had her historians, poets, lawgivers, and physicians, whose writings have come down to us, and yet, neither in history, nor poem, in comedy or satire, nor yet in her works on medicine, or laws, in which all subjects are discussed with the utmost freedom, do we find any mention, or indication of the existence of such a disease. No, Greece, the land of beauty and of voluptuousness was free from this curse of the modern world.

If this disease were the product of licentiousness, where should we expect to find it developed, if not in the capital of the Roman Empire, where every species of vice and immorality reigned triumphant, when whole cities lay sweltering in the vilest debauchery, in the days of the Neros, and Caligulas, and Messalinas ? Herculaneum and Pompeii were overwhelmed by the ashes and lava of Vesuvius. They now open to us proofs of inconceivable obscenity and profligacy ; but we find no where the slightest evidence of the existence of this disease. On the contrary, Celsus, the Roman, though he describes particularly eight varieties of ulcers which appeared upon the organs of generation, no where makes any allusion to a disease like our modern syphilis. Had the rakes or the prostitutes of Rome been subject to such a disease, had they suffered its horrors and deformities, would the fact have escaped the pens of such writers as Horace, and Juvenal, and Ovid ?

The proof, though of a negative character, is overwhelming, and must convince every one, that so far as this disease is concerned, those were the golden ages of the world. We must be satisfied, that if this disease were intended as the punishment of promiscuous sexual intercourse, it had not *then* been inflicted upon mankind, When and where then did it originate ?



Syphilis appeared in Europe in 1493, just after the discovery of America by Columbus. In one of the vessels of the fleets which followed him to the West Indies, and returned to Spain, there were two hundred men affected with this disease. With incredible rapidity it spread over Spain—it was carried to France, and broke out in the army at the siege of Naples, in 1495; from the sea-ports and capital of Spain, from Paris, and from the army of Charles VIII., this disease spread fast over Europe. In France, it was called the Spanish Pox; in England, it was known as the French Pox, or, as the doctors termed it, *Morbus Gallicus*. Its ravages were terrible. It seemed to spread itself every where, like the plague. Science was at fault, and this “new disease,” as it was uniformly termed, was every where looked upon with terror. In the course of twenty years, a great number of treatises upon the disease were published, whereas none had ever before been written; a sufficient proof, one would think, of the date of its appearance in Europe. In Madrid, the capital of Spain, nearly the whole population was affected with it, till in a few generations the disease became in a manner constitutional in many families. A philosophical historian of the last century asserts, that from 1600, to 1700, one half the men in all the armies of Europe were affected with syphilitic diseases. He who denies the conclusions, based upon historical facts like these, may as well, like Broussais, deny the existence of the disease altogether.

How the virus came to be developed in the West India Islands, and as some have contended in other tropical climates, science can never unfold to us. If it were attributable to heat of climate, it should have existed always in the tropics, and in one hemisphere as well as the other. Some have imagined that it was the result of cannibalism, which existed among the savage Caribs. If so, it should have been found in the South Sea Islands, especially in New Zealand, where, however, it was unknown until introduced by European voyagers. One author has attributed the disease to an unnatural connexion between men and a tribe of monkeys—another asserts, that instead of being brought home by the followers of Columbus, it was the product of the copulation of a man with a diseased mare at the siege of Naples. Modern medical writers generally have some favorite hypothesis to support, and so give ridiculous opinions; but all other writers, since the discovery of America, have considered the introduction of the syphilitic disease, as a sad offset to that great achievement.

But we have an instance of the recent introduction of this disease before our eyes,

which proves that the virus is not spontaneously developed, as the result of promiscuous sexual intercourse.

The Island of Tahiti, or Otaheite, the principal of the group of Society Islands, in Polynesia, when first discovered by Captain Cook, contained a population of two hundred thousand souls. These islanders, from their personal beauty, and the softness of their manners, were considered as among the most interesting people of that portion of the globe. At the same time, they were so voluptuous in their habits, and so free and promiscuous in their amours, that the first French navigators who visited the Island, called it the modern Cytherea. Chastity was a thing unthought of. Hospitality required every islander to offer to the stranger, not only food and shelter, but his wife or his daughter. The aristocracy of the Island had formed an association, for the purpose of encouraging the promiscuous intercourse of the sexes. With all this, such a disease was never heard of, until introduced from one of the ships which first visited this group. It soon spread over the island, and through the whole population. This beautiful Island—this enchanting paradise of the southern seas, became one lazar-house of disease and death. Under its destroying influences the population has gradually diminished, so that there now exists but a miserable remnant of nine thousand people, and many of these are sickly and deformed from the effects of this disease. They are wasting away. The fountains of life are drying up—the race is withering and dying; and in a few years there will be scarcely a remnant preserved of the people of this once populous and happy Island. When the English missionaries first went to Tahiti, and told them that they had come to bring them joyful tidings of salvation, the chiefs cried out in the bitterness of their souls—“Lies! lies! you bring us death, we are all dying of your accursed diseases!”

Here, then, is an instance, and it is very far from being a solitary one, which shows that syphilis is not the natural result of voluptuousness and promiscuous sexual intercourse; and so far as we know any thing of its history, it has always been propagated by contagion. Where it first appeared, what causes produced the virus, and under what circumstances it was developed, must ever remain among the hidden mysteries which abound in pathological science.

These questions, however curious or interesting, are less important than that which immediately suggests itself: What is the nature of the syphilitic virus? or of what are the poisons which produce the venereal diseases composed, and how do they produce their specific actions upon the system? Is their virus acid or

alkaline, solid or gaseous, animate or inanimate? Can chemistry analyze them? Can the microscope reveal them?

Chemistry has proved that the pus, containing the gonorrhœal virus, as well as that which produces the syphilitic chancre, is alkaline. In this respect they do not differ, but the microscope shows in the latter the existence of animalculæ. But this is no proof that the poison is an alkali, or that the syphilitic virus is nothing but a description of microscopic existences, which copulate and breed. As these animalculæ are only found in syphilitic sores, in certain situations, we must consider them as accidental, or, at least, as having no necessary connexion with this virus—much less constituting its poisonous influence.

Thus we are thrown back upon all that is left for us—to study the cause, through the effects it produces. And this is no novelty. In advancing beyond what are called the certain sciences, this is all that is left to us, unless it be the blindest, the most absurd, and the most useless theorizing. We come therefore, to the effects produced by the venereal poisons.

The venereal virus, which produces the local affections, usually, though not in strict propriety, termed gonorrhœa, varies much in its action. Sometimes its first effects are observed within twenty-four hours after exposure—sometimes not for several weeks. In most cases, the period is from five to fifteen days. The first symptoms are a slight redness at the extremity of the urethra, an uneasy tickling sensation, something like that produced by a cold upon the other mucous surfaces, a smarting or burning in urinating, followed by a flow of mucus which gradually thickens into a yellowish and greenish puriform secretion. In some cases these symptoms are preceded by a heavy and uneasy sensation in the loins, and by a sense of drowsiness.

The pus secreted by the mucous surface of the urethra, contains the virus, which is capable of producing a similar affection on other mucous surfaces, as the inside of the eye-lids, the lining membrane of the nose and mouth, and of the anus. In the female this affection may exist in the urethra, or vagina, or both. In males it does not usually extend in its first stage, more than an inch and a half beyond the opening of the urethra; though the inflammation with which it is sometimes connected involves, at times, the glans penis, the testicles, and the bladder, and a kind of bubo, or enlargement of the neighboring glands, is not the unfrequent result.

The most serious results of this affection are strictures, and a gleet, sometimes diffi-



cult of cure. The gonorrhœal virus never produces any of the symptoms or consequences of the syphilitic affection; though both diseases may exist at the same time, and may be confounded together. A more particular description of this species of venereal affection, with its treatment, will be given in future lectures.

In the whole history of medical science, there is no more extraordinary fact, than that the comparatively simple and local affection of gonorrhœa, should have been considered the same disease as the dreaded and terrible syphilis, and the product of the same virus. There is but one way of accounting for this strange mistake. Chancres, the product of the first action of the syphilitic virus, may exist in the urethra, and by their irritation produce an apparent gonorrhœa. The surgeon, mistaking this for a real gonorrhœa, finds it followed by a true syphilitic bubo, or, in due time, by secondary syphilis, and all the symptoms of the disease we shall now briefly describe.

When a person has been exposed to infection by sexual intercourse, and the virus is caught upon an eroded, tender and delicate surface, usually the glans penis, the prepuce, or just within the lips of the urethra, in the male, or the labia pudenda, vagina, or os uteri of the female, the surface thus affected becomes slightly inflamed in about twenty-four hours; on the second or third day there is a slight tumefaction; about the fourth day there appears a small pustule; on the fifth day there commences an elastic induration; after the sixth the pustule shrivels into a crust, or a series of layers, shaped like a truncated cone, with a depressed apex. Under these crusts is found an ulcer with a hardened base, a foul red surface, and a red, dark, or livid elevated margin. The pustule does not exist, without an epidermis; but this is the general character of syphilitic chancre, more fully to be described hereafter. During the formation and indolent stage of the chancre, which may exist for an indefinite period, and which has sometimes lasted from one to two years, the virus is capable of reproducing the disease, by contact or inoculation.

During the progress and continuance of the syphilitic chancre, the venereal poison appears to be produced and absorbed into the system, producing as the next most common symptom, an enlargement of the glands, termed buboes. These, when caused by the absorption of the virus, and having suppurated and opened, form deep-seated syphilitic ulcers, producing the virus capable of communicating the disease by inoculation.

This is the most ordinary method of producing primary syphilis, but it is evident

that the virus, wherever applied, will cause, under certain circumstances, its specific effects: thus, the lips, the tongue, the eye-lids, the nipple, or any tender or eroded spot upon the body, may be the seat of the chancre.

The virus, having thus incubated, bred, or fermented, as some of the old school will have it, if the primitive sore is not cured within a certain period, stated by some writers at five days, or if the poison is not met and neutralized by antidotes, becomes absorbed, and enters into the circulation, producing after a time the train of secondary symptoms, the dreaded lues venerea of the old medical writers.

The first breaking out of secondary or constitutional syphilis, may take place in ten days, or it may not appear for months, or even years, depending apparently upon the temperament of the patient. It is usually characterized by ulceration of the fauces, destruction of the uvula, and the spongy-bones of the nose, purple eruptions upon the breast, extensive ulcerations over the shoulder blade, on the elbow, and other surfaces lying near the bones, nodes upon the superficial bones, mucous tubercles, and a great variety of diseases of the skin.

The syphilitic virus contained in secondary ulcers, will not produce the primitive affection, or chancre, by inoculation, but it may be transmitted from parent to child, from husband to wife, and perhaps also, from the infant to the nurse, and from the nurse to other infants. This poison may lie dormant in the system for months, or even years, or, without appearing in the individual, may be the curse of his or her posterity.

Should the disease not be checked in the early period of what are termed the secondary symptoms, it marches on to its horrible close. The testicles swell and harden, excrescences appear about the anus, the hair falls from the head, the eyes are blinded, the ears deafened. The bones swell, exfoliate, and rot away in deep seated ulcerations; the bones of the face are destroyed, the skull becomes eaten in holes like a honey comb, or falls away from the brain, and finally the patient dies the most horrible and disgusting of deaths.

Such are some of the symptoms, and such the usual progress of this disease; to combat which, successfully, must be considered as one of the grandest triumphs of medical science, and surgical skill; and prevention and eradication of which from the family of man, is a desideratum—an object to which physicians, magistrates and philanthropists should direct their efforts. In some of the countries of Europe, the attention of governments has long been directed to this subject. They have thought

that sound constitutions, and the public health were worth preserving. They use preventive measures, and enforce sanitary regulations with all the power of an armed police. The evil is thus greatly lessened, if not entirely prevented.

On the other hand, England, and the United States following her example, have allowed these diseases to take their course, and left their people to suffer such consequences as we see all around us. There is no sound philosophy, no true policy, no justice—certainly no philanthropy in such a course; and the medical profession is most of all in fault. There exists a deplorable degree of ignorance in regard to the nature and treatment of this whole class of diseases. Our hospitals, and our grave yards are full of the monuments of ignorance in the regular medical profession, and quackery out of it; and it requires bold and truly scientific and philanthropic physicians, to make this department of medicine a speciality, and to give it the rank and respectability which its importance merits.

Without encumbering this lecture with quotations or annotations I lay down the following principles:

1st. That the two venereal diseases, gonorrhœa, and syphilis, are each produced by its own specific virus.

2d. So far as we can judge, gonorrhœa may have existed from time immemorial, while syphilis is of comparatively modern date, and was never known in Europe until near the end of the fifteenth century.

3d. Neither of these diseases are necessarily connected with practices of licentiousness, nor are they by any natural law the result of the promiscuous intercourse of the sexes; and they are to be treated as accidents or misfortunes, rather than punishments.

4th. Primary syphilis, as developed in the chancre, and bubo, proved syphilitic by inoculation, can only propagate this form of the disease; but secondary symptoms may infect with a virus capable of producing the secondary disease, as in hereditary infection, and other cases, more fully to be set forth hereafter.

I shall now proceed to the particular description and treatment of syphilitic disease in all its stages and complications.



## PLATE II.

### PRIMITIVE ULCERS BEGINNING WITH PUSTULES :

#### REGULAR INOCULATION.

FOUR years ago, this patient, who is twenty-six years of age, contracted, for the first time, a gonorrhœa. The running was inconsiderable, and disappeared, in eight days, without treatment.

The present affection, which the patient perceived four days after an impure connexion, is of two and a half months' standing. It began with severe itching; afterwards, three pustules appeared on the inferior part of the prepuce, following the course of artificial inoculation, and after their rupture, three primitive ulcers were readily observed.

For a month, the patient treated himself at home with sarsaparilla wine, and mercurial ointment. So far from improving, the ulcerations made a marked progress; and soon, further behind, on the sheath, other similar chancres showed themselves. At the same time inflammatory symptoms presented themselves, and the patient came to us for treatment on the thirty-first of January.

At this date, the parts affected are red and much inflamed. There is an incomplete phymosis, which, notwithstanding the œdema, permits the gland to be examined, and in which is seen, near the frenum, some ulcers with a yellowish-gray base, offering all the characters of the period of progress. The ulcerations on the limb of the prepuce, the first seat of the disease, show already, at their circumference, a whitish ring, an indication of the commencement of the period of reparation. Finally, on the skin of the penis, in consequence of the inflammation, which is accompanied with an erysipelatous swelling, the follicular ulcers, that commenced with pustules, are complicated with partial gangrene. In the right groin, a slight ganglionic tumefaction is perceptible, and pressure occasions quite a lively pain.

The sores were washed with a concentrated solution of opium, and dressed with lint wetted with the same liquid. Diluted drinks and low diet.

February 4th. There is less inflammation on the side of the genital organs, and the glans may be uncovered with considerable facility. The ganglionic tension of the right groin, has yielded to repose and general antiphlogistics. The use of opiates is continued; drink of dog-grass and liquorice; and soups and broths given.

February 6th. The inflammation of the genital organs diminishes more and more, and there is but little tumefaction. Continue the opiates. The patient is put upon a quarter of an allowance of food.





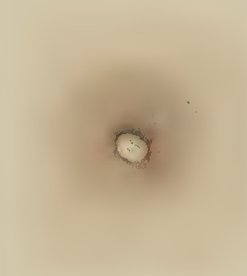




*Fig. 2.*



*Fig. 4.*



*Fig. 3.*



*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



*Fig. 8.*



February 10th. The ulcerations present a good appearance. The superficial sloughs produced by mortification, in the pustules of the follicular inoculations of the skin of the penis, are everywhere detached. Cauterization with the nitrate of silver, and the application of lint soaked with aromatic wine, is used over the whole. The diet increased to half allowance.

February 14th. Nearly everywhere the period of reparation advances or is well established. On the prepuce the base of the ulcers shows slight induration. Calomel ointment applied to this point. Every where else, continue the dressings with the aromatic wine, and cauterization with the nitrate of silver.

February 18th. Cicatrization continues. The ulceration on the gland is healed.

February 22d. The patient is obliged to leave on business. On the 25th he returned.

The base of the chancres on the prepuce is still indurated, and the cicatrization is not complete. Continue the dressing with the calomel ointment, and add to the treatment one pill a day of iodide of mercury, with syrup and ptisan sudorifics.

February 28th. Cicatrization is everywhere completed. Same general treatment continued.

March 4th. The induration on the prepuce has disappeared. The treatment was continued for a month afterwards.

## EXPLANATION OF PLATE II.

*Figure 1.* The genital organs with a front view. On the edge of prepuce, thickened and folded, are ulcers showing the first stages of the disease. Their centres present the true character of the ulceration, whilst a whitish ring at the circumference indicates the commencement of reparation. Further behind is a gangrenous eschar, resulting from the mortification which has smitten the pustule of a follicular chancre. Still further behind is an entire pustule, the summit of which exhibits a brownish slough. The anterior half of the penis is erysipelatous, the intensity of which is not remarkable in that part of the prepuce which projects in front of the glans.

*Figure 2.* The genital organs disposed in such a manner as to present the face of the follicular chancres in the pustulous stage, and the loose end of the prepuce before the glans. Near the edge is a black eschar, following the mortification of a pustule; laterally, a follicular inoculation, two days old. Lower down is the face of a large pustule with a gangrenous top, drawn on the first figure. Finally, on the limits of the inflamed parts, is another follicular chancre, which has caused a notable rising of the skin.

*Figure 3.* A regular pustule, resulting from an inoculation with the lancet on the first of February; the drawing was made on the third at nine o'clock in the morning. At the circumference there is a slight thickening of the skin, the intensity of which diminishes, gradually, from the centre, in the same proportion as the red color of the inflammatory areola.

*Figure 4.* Design taken on the fourth of February, at nine o'clock in the morning. The regular progress in the elements of the pustule.



*Figure 5.* Design taken on the fifth of February at nine o'clock in the morning. The same regular progress. In the centre is still seen traces of the point pricked by the lancet. The epidermis is much raised by the pus.

*Figure 6.* Drawn the sixth of February at ten o'clock in the morning. The development of the pustule is very considerable, owing to the rising of the epidermis, which is distended by a very great quantity of pus.

*Figure 7.* Drawn on the seventh of February at ten o'clock in the morning. The same general progress; the pustule, protected by a watch glass is not yet broken at any point.

*Figure 8.* Drawn on the seventh of February at eleven o'clock in the morning. The pustule is ruptured, and the base presents, in the centre, an ulcer with well defined edges. Beyond the ulceration, the portion of the skin denuded by the loss of the epidermis is red and superficially ulcerated, while the central ulcer is of a grayish color.

## CHAPTER IV.

### PRIMARY SYPHILIS. — PROPHYLACTICS.

THE disease only to be effectually prevented by the public authorities. — What some European nations have done. — England and the United States have done nothing. — No antidote has been discovered which can prevent its developement. — General suggestions to avoid infection. — Government regulations to protect the public against other contagious diseases. — Neglect of this disease. — The medical profession should earnestly take up the subject.

THE first object of medical science should be to prevent disease; the second, to cure it; but we too often fail in both.

Whatever disease is worth curing is worth preventing. If it be right to treat syphilis at all, it is right to prevent it, if we have the power.

I trust that the time is past forever, when it was thought that venereal diseases, being punishments, inflicted by Providence for certain offences, ought not to be prevented. Common sense and common humanity alike revolt against such an idea.

If the liability to this disease was any check upon licentiousness we should find vice existing less in our large cities than in the country, where the liability is less. The contrary is pretty generally thought to be the case.

A frightful poison exists, and is spread through the community, producing the most terrible ravages. One would suppose that the very first question asked by any man of sense would be—how can its effects be prevented? Such a question should occupy the attention of scientific men, of philanthropists, of magistrates and legislators.

We have our quarantine laws enforced rigidly and at a great expense, to guard us against the plague, the yellow fever, and the small pox. To more effectually prevent the latter disease, we have vaccination, and rewards and honors have been heaped upon its fortunate discoverer. Yet, we have not used the simplest means to prevent the spread of a disease which may compare with either of those which we guard against with so much trouble.

This is not the case universally. In this respect, several European governments are far in advance of ours, in taking measures for the protection of their people.

In France, Holland, Germany, and perhaps other continental nations, prostitutes and houses of prostitution are placed under the constant surveillance of the police. The women are required under pain of imprisonment, to be examined frequently, and every care, consistent with what is thought the necessary degree of personal freedom, is used to prevent the spread of the infection. These measures have effected much, and the results would be more beneficial, were they more universal.

But while some European nations, as those we have mentioned, appear to have something like a proper regard for the health and lives of their people, others, in this particular, are utterly neglectful. England, a great commercial nation, is constantly engaged in spreading these diseases round the world; and we are not far behind her, in this corrupting influence.

It is my deliberate opinion that the communication of the syphilitic virus ought to be made in all countries one of the highest offences known to the law. Surely such a crime is worse than theft or burglary—and not far below murder, since it may be the means of destroying a whole generation.

I am certain, that, should all other countries besides England and the United States, unite for the extermination of this disease, they would be perfectly right in subjecting every person visiting them, from these countries, to a proper examination, and if necessary to a rigid quarantine!

It is evident that nothing is necessary for the eradication of the syphilitic poison from the world but an energetic combination of all nations for that purpose, for a few generations; and with this disease would disappear a vast quantity of the most loathsome and incurable of the diseases now found in every civilized community. No one can read without the heart-ache, the descriptions given by travellers of the pure health, sound constitutions and freedom from sickness and deformities which existed in the Islands of Polynesia, if he contrasts them with the wretched and miserable condition to which they were reduced in a few years by the introduction of syphilitic diseases by European voyagers. What more terrible misfortune could have befallen them, and what more heinous crime could have been committed, than the introduction of such a curse among those simple hearted and much too hospitable Islanders!

The effort to discover some antidote to this poison, which should prevent contagion, was long frowned down by the community, from the idea already adverted to—that



these diseases were intended to punish libertinism. The medical society of Paris, as long ago as 1815, appointed a commission to investigate the claims of Luna Calderon, who asserted that he had found out a perfect antidote. His experiments tried upon himself appear to justify his claims, but as they were not encouraged, or rather, as a storm of persecution was raised against him, he kept his preventive a secret. Ricord supposes it to have been some kind of caustic soap, but I see no good reason for his opinion. It was, however, a local application, applied to the point of infection, and with invariable results.

I may assert that no chemical or medicinal agent is now known to the medical profession, which can be at all relied upon as a specific antidote to the primary symptoms of syphilis.

In the absence of the necessary police regulations, which the health of individuals and the welfare of society alike demand, the surgeon can only recommend certain precautions, which may be of more or less benefit; and in regard to the moral question, he must be content with a single quotation, "The whole need not a physician, but they that are sick." Those who never go astray, need neither advice nor warning — yet, in regard to this disease how often is the innocent wife the victim of the guilty husband; and sometimes the innocent husband is infected by the guilty wife.

Cleanliness, a frequent and thorough washing of the parts most liable to infection, and a frequent examination not only of the external parts but of the whole extent of the vagina and os uteri, with the speculum, are among the best preventives against infection. It must not be forgotten that the virus may be communicated by a female, where such precautions are not taken, though she may not herself become infected with disease. The soaps, and solutions of the chlorides of lime or soda are not supposed to act specifically as antidotes, though if of sufficient strength they may act chemically upon the matter which holds the virus.

No suspicious connexion should be hazarded if any abrasion exists, for in such case, inoculation, supposing the presence of virus, is almost certain. I would recommend the frequent washing of the male organs with astringent lotions for the purpose of tanning and hardening the parts, which I think may be a powerful means of prevention of the disease; but possibly by this means the pleasure of sexual intercourse might be in an equal degree diminished.

The covering of the penis by an artificial sheath, is a disagreeable measure, and

as Astruc has remarked, an illusive guarantee. It is liable to rupture, it is often pervious, and it does not protect all the parts exposed to infection. As a preventive to gonorrhœa, however, it may be considered effectual.

The longer the contact the more is the exposure, and the moment after the consummation of the act, the exposed parts should be washed with the greatest care, and any abrasion or lesion of continuity, should be immediately canterized.

The least of these preventive measures, unsatisfactory as they are, may not only save a valuable life, prevent domestic unhappiness, protect another generation from the inheritance of loathsome diseases, but it may assist in checking the dissemination of the cause of all these evils.

I might go beyond all these and exhort men to be chaste and virtuous ; but this is the office of the clergyman, and not of the physician. If an hundred pulpits thunder in vain against immorality—if hospitals crowded with disease, and the hourly exhibitions of deformity, are not enough to restrain men from vicious indulgence, my feeble voice would be raised in vain. Like the army surgeon, I can do nothing to prevent the fight, but it is none the less my duty to stand ready to give assistance where it is required.

Since it appears then, that the resources of medicine are of so unsatisfactory a character in regard to the prevention of this class of diseases, it is the more necessary that government should exert its salutary functions, and that the community should have the power of the police, in enforcing the necessary regulations for promoting the public health.

We have inspectors going round periodically, to take precautions against fires, but against this fire which burns men's souls out of their bodies with lingering tortures, no such precaution is taken.

We have health inspectors, who go round inspecting yards and nozing out sinks from which there comes too strong an effluvium, but they pass by with neglect houses which spread around them the most pestilential diseases.

There is not a reason in favor of our health and quarantine regulations, which does not apply in full force to the importance of using similar measures for the prevention of venereal diseases.

Our police at the present time has an accurate registry of the houses of ill fame, and the number of inmates. Every woman of the town, her residence and connexions are known. To make the proper regulations in regard to the public health it is

necessary to go but one step more, and that step would be a benefit to the city and to the human race, by lessening the aggregate amount of evil.

A stranger in the city sometimes loses his watch or pocket book at what are called pannel houses. He goes to the police-office, the officers are set on the track, the offenders are arrested, and sometimes the property recovered, and the thieves sent to prison. But a countryman may be robbed of health, happiness, and life itself, without any such remedy, or any remedy other than a prompt application for medical advice, and then it is an even chance if he do not fall into the hands of quackery.

The medical profession of the United States ought to come to the aid of the public authorities, and the New-York Academy of Medicine would do well to offer as a prize question, the same that was not long since offered by the Society of the Medical Sciences, of Brussels,—namely: “What measures of medical police are best adapted to arrest the propagation of venereal diseases?”



## PLATE III.

### PRIMARY FOLLICULAR ULCER: VIRULENT BUBO: REGULAR INOCULATION.

ON the ninth of January the patient had sexual intercourse, and three days after, he perceived the presence of a small ulceration, situated on the right side of the superior face of the glans. At this time he was suffering still from a gonorrhœa, which he had contracted on the twenty-sixth of December. The running had increased but little, notwithstanding he had neglected the regimen that we had directed; and six days later, it had passed to almost the mucous state. Two days after the patient observed the chancre on the glans, he felt in the groin considerable pain, and a bubo developed itself with all the symptoms of an acute inflammation. Up to the 28th day of January, the day of first consulting us, he had undergone a general antiphlogistic treatment, and a rigid course of diet.

To-day there still remains a slight urethral discharge. On the glans, an ulcer may be seen having a grayish base, with abrupt edges, and presenting all the characters of the follicular chancre. The red areola which surrounds it is but little extended, and appears nearly limited to that portion of the tissues, which, slightly raised, offer a little tension. Apart from this local symptom, the genital organs preserve their natural color, and present no sign of inflammation.

In the fold of the groin, the seat of the bubo, the skin is thin, adherent, and of a lively red color. There is an evident fluctuation, and one can judge of the extent of the centre occupied by the pus, by the space comprised between the sides, which are neatly marked, and easily traced, in consequence of their notable resistance.

On the 29th of January, the bubo is opened, and furnishes a considerable quantity of yellowish pus. The surface of the focus is covered with gray points. It shows a perfect resemblance to ulcers in the state of progress. The chancre on the glans appears stationary; its base is at all times grayish. Inoculation is performed on the right thigh with the pus which it furnished. Cataplasms are applied to the bubo; the chancre is dressed with cerate. One quarter allowance of food, with cooling drinks.

January 30th. The pus of the bubo is inoculated in the left thigh.

February 2d. The pustules from inoculation are well formed. Continue the same dressings and the same regimen.

February 3d. The pustule on the right thigh is broken, and shows the characteristic ulcer produced by inoculation. Its base is grayish. In the centre is seen a grayish spot like that of the chancre on the glans.









*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



The opening of the bubo presents ulcerated sides a little turned outwards. The centre is in the stage of ulceration and progress, and the thin skin that covers it is of a reddish-violet color. The neighboring ganglions are slightly inflamed, and but little sensible to pressure.

The chancre on the glans is cauterized with the Vienna-Paste, confining it as much as possible to the limits of the ulcer. Continue the same treatment and the same regimen.

February 4th. The cauterization applied to the chancre on the glans, has extended but little beyond the ulceration. A small black eschar covers the part.

The ulcers on the two thighs, have made regular progress. They are also cauterized with the Vienna-Paste. Half an allowance of food. Continue the poultices on the bubo, which suppurates abundantly.

February 8th. The black eschar produced by the Vienna-Paste on the chancre of the glans, was detached during the night; the bottom of the sore is of a lively red. This state seems to indicate the destruction of the virulent principle. The focus of the bubo is cauterized with the nitrate of silver, and dressed with lint saturated with aromatic wine. Same regimen.

February 10th. The sore on the glans, resulting from cauterization is of a fine rose color. Dress it with aromatic wine.

The sloughs caused by the Paste applied to the thigh on the 4th of February, fell off on the 12th.

February 15th. The sore of the glans is nearly cicatrized; those on the thighs look rosy and healthy. Their virulent nature has been completely destroyed by the caustic. Dressed with the aromatic wine. For the bubo, the same dressing. Diet as before.

February 20th. The sores from inoculation are everywhere cicatrized. The focus of the bubo diminishes, and there is much less suppuration. Same regimen and same dressing.

March 2d. To obtain a granulation favorable to the production of skin with which to cover the focus of the bubo, the bottom of which gradually rises, the powder of cantharides is applied.

March 10th. The reparation goes on well; the sore in the groin is rosy, and covered with granulations of a healthy nature.

March 20th. Left cured. Not the least induration can be perceived under the cicatrices of the ulcers, either on the glans or the thighs. It has not been necessary to have recourse to general treatment.

### EXPLANATION OF PLATE III.

*Figure 1.* The genital organs are seen, as sketched on the third of February. On the glans may be observed an ulcer resulting from follicular inoculation, that took place during a sexual connexion in which the patient indulged on the ninth of January. Its edges are clearly defined, abrupt, and slightly turned outward. The bottom of the ulcer is grayish. In the fold of the groin the borders of the incision, made to open the focus of a virulent



bubo, present the aspect of an inoculated wound. They have ulcerated, remain apart, and are turned a little outwards. On the inferior margin of the upper side, a portion of the tissue is seen invaded by ulceration. A drop of pus is escaping from the lower angle of the sore.

*Figure 2.* Represents an ulcer produced on the right thigh by inoculation, done on the 29th of January, with pus furnished by the chancre of the glans. The drawing of it was taken on the 3d of February, at 10 o'clock in the morning, immediately after having broken the pustule.

*Figure 3.* Is the same ulcer, drawn on the 4th of February at 10 o'clock in the morning.

*Figure 4.* This ulcer has resulted from the inoculation of matter taken from the ulcer in the groin. On the 30th of January the inoculation was made on the left thigh, and the drawing of it was taken on the 3d of February.

The figure with the lips of the urethra separated, exhibits an ulcer on the inner surface, and shows how true syphilis and gonorrhœa came to be considered identical diseases.





Fig. 2.



Fig. 1.







## PLATE IV.

### PRIMARY ULCERS: ACUTE BALANO-POSTHITIS:

### PHYMOSIS: GANGRENE.

THIS patient, who has been accustomed to drink to excess, had never had any venereal affection, until, six days after a recent sexual intercourse, he experienced considerable smarting on the glans. When he examined the parts, there already existed swelling of the prepuce and glans, and there were some very painful ulcers on the balano-mucous membrane.

The patient consulted an empiric, who ordered dressings with a whitish powder, and administered a ptisan which greatly excited the secretion of urine.

The swelling of the parts made rapid progress; in the three anterior quarters, the penis was doubled in volume; it was impossible to uncover the glans, and the pain soon became intolerable. From that time the patient ceased all treatment.

He comes to us on the 19th of May. There exists a very intense phymosis; the organ is three times the natural size, and the skin of the prepuce presents, on the right, a blackish semi-circular eschar. In all other places, the parts exhibit a reddish-brown color. The end of the prepuce is the seat of a considerable œdema, nevertheless the extremity of the glans can still be seen. In its inferior part, the prepuce shows quite a remarkable projection, and forms, before the glans, a species of receptacle, filled with bloody pus, and gangrenous detritus. The urethra, from which the urine readily flows, furnishes no morbid matter; and the running, which escapes abundantly, proceeds entirely from the glans and prepuce. Erections give no pain in the urethra, and the extremity of the penis only is the seat of acute sufferings, occasioned by the pressure of the prepuce on the glans. It is also only at the ulcerated glans and prepuce that the patient feels smarting at the time of urinating.

The inguinal regions, carefully examined, present no sign of ganglionic tumefaction, and pressure there reveals no abnormal sensibility; finally, the bloody matter, escaping from the ulcers, has caused an erythema, quite intense, on the part which it touches, and this state is above all remarkable at the genito-crural fold, on the scrotum, and on the internal face of the thighs. Although the patient feels the most acute pains, and for three days has suffered from an intense fever, he will not submit to a division of the prepuce. Apply thirty leeches to the groins. The penis is kept enveloped with compresses soaked with a concentrated solution of opium. Low diet directed; sulphuric lemonade, opium and camphor pills.

May 20th. Drawing made of the genital organs. There is less pain. Continue the dressings with the solution of opium. The same regimen.

May 21st. The swelling has much diminished. The same dressing continued.



May 22d. The gangrenous parts are detached, and a sketch is taken of the organs in this state. There is now but little pain. At its superior part, the prepuce is quite regularly destroyed, following a line which corresponds to the projection of the base of the gland, whilst below, it forms an irregular shred, to which the eschar is still adherent. On the glans may be seen gangrenous detritus. All the balano-mucous membrane is destroyed, but the organ itself is not deeply affected.

The emission of urine is always easy; the fever has nearly subsided. Continue the opiates and the same regimen.

May 23d. The gangrene has made no progress; and, as far as possible, the still adhering sloughs are removed by artificial means. The same dressing and the same regimen.

May 24th. The gangrenous matter has disappeared from nearly every part, and but little swelling remains. Pus was taken from the glans, and inoculated in the left thigh. The dressings of the solution of opium are used on every part. Diet of broths and soups.

May 27th. The sores are rose-colored, and present in no part the appearance of chancres; there is no longer any swelling. The inoculation has produced nothing, and given thus the certainty that the gangrene has radically modified the specific nature of the primitive ulcers. It is of equal importance to notice that the pus, mixed with the gangrenous detritus—the contact of which was sufficient to develope on the skin in the vicinity of the diseased parts, the erythema of which we have spoken—has not furnished, by inoculation, the least symptom that it was possible to confound with those which result from the inoculation of pus containing the syphilitic virus—an agent indispensable to obtain the regular phenomena that accompany its introduction under the epidermis, and which cannot be replaced by secretions, more or less acrid, that the genitals can supply, whatever be the degree of inflammation of the ulcers that are situated upon them.

Dress with aromatic wine, and give one quarter of an allowance of food.

May 28th. The remaining piece of prepuce was excised, in order to make regular the circumcision effected by gangrene. The same dressing. Give half an allowance of food.

May 29th. Cauterized with the nitrate of silver some fleshy granulations on the edge of the prepuce.

June 1st. The cicatrization of the glans is complete, as also that of the superior part of the prepuce. Touched lightly with the nitrate of silver the parts not cicatrized.

June 9th. The patient left perfectly cured.

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#### EXPLANATION OF PLATE IV.

*Figure 1.* View of the Genital Organs, drawn on the twentieth of May. The penis, in the three anterior quarters of its extent, is the seat of a very considerable swelling. On the right side of the prepuce may be observed the superior extremity of a gangrenous eschar, which follows a semi-circular direction, towards the inferior parts. The skin of the penis, elsewhere, is reddish-brown. At the superior part of the opening presented by the edge of the prepuce, will be noticed the extremity of the glans, and the meatus urinarius; below,

the detritus of gangrene and sanious pus fill the species of pocket formed by the prolongation of the inferior lip of the prepuce.

*Figure 2.* View of the Genital Organs in the same position as in the first figure; drawing made the twenty-second of May. The prepuce, smitten with gangrene in three quarters of its extent, following the direction of the corona glandis, is detached in its superior parts, is turned over, and adheres by an irregular shred at the bottom. On the glans, the mucous membrane of which is entirely destroyed by gangrene, are portions of slough and traces of ulceration, superficially covering the body of the organ, at the anterior extremity of which may be distinguished the meatus urinarius. All the parts are bathed with reddish pus, sanious, and mixed with detritus of gangrene.

## CHAPTER V.

### PRIMARY SYPHILIS. — CHANCER.

**Its definition.**—Infallible test of its syphilitic character.—Different varieties.—Remarks upon its diagnosis.—Time which may elapse between the infection and the appearance of the sore.—May sometimes be seen on the lips or tongue.—Prognosis; this is affected by the variety.—The complications.—Bubos not a necessary result of chancre.—When does chancre cease to produce the specific virus?—The *abortive treatment*.—The kind of chancre influences the probability of secondary symptoms.—*Local treatment*: Excision; Caustic.—*Constitutional treatment*: Mercurials; Regimen.—Circumstances modifying the treatment.—Chancres in the urethra; in the vagina, and on the os uteri.—When cantharides may be useful.—Chancres accompanied with violent inflammation; with hæmorrhages.

THE name of chancre has been given, by common consent, to the primary syphilitic ulcer, which usually appears upon the glans penis, or prepuce, but may be developed upon any portion of the body, and upon such of the mucous tissues, as are not, by the abundance of their secretions, protected from the action of the virus.

The syphilitic poison is generally received in sexual intercourse with a person who is diseased; but this is not a necessary condition. So that the matter from a venereal sore be recent, it may be inoculated with a lancet, by the finger nail, as in scratching after dressing a venereal sore, by the contact of a pipe or drinking glass, possibly by a privy or bath, and it is not unfrequently communicated by either male or female, who is not affected with the disease. Thus a man, with the virus of a chancre, taken from a prostitute, concealed beneath his prepuce, may communicate the disease to his wife, without being himself diseased. The same result may be produced on the other side; and the consequences are more easily imagined than described.

But in whatever way the poison is applied, it is only by its application in some form or manner that chancre is ever produced; and the matter from a chancre, taken at the proper time, and applied in the proper manner will always produce it. This rule, so far as I know, admits of no exceptions. It matters not that the



patient has other chancres, that he is affected with gonorrhœa, that he has secondary syphilis or any other disease, so long as the matter of a progressive or indolent chancre is applied to a surface not affected with an acute inflammation, or not too copiously secreting, and introduced beneath the epidermis or epithelium, the result will be the formation of a true syphilitic affection, which in its turn will produce a third, and so on indefinitely.

Here, then, is an infallible test of the true character of a suspicious ulcer ; and, however difficult it may be, in some cases, to distinguish sores which are not virulent from those the consequences of which are always to be guarded against, inoculation is a sure guide to a correct diagnosis.

This is a test, however, which patients are not always willing to submit to ; yet few intelligent persons would object, were the nature of the experiment properly explained. I say — “Here is a pustule, or ulcer, as the case may be, in a suspicious situation, and the result of a suspicious connexion, perhaps : it is probably syphilitic, but possibly not. If it is not, it will do you no kind of harm for me to take some of its matter upon the point of my lancet, and prick the inside of your thigh. I shall treat the first sore as if it were a chancre, and if it prove to have been one, by the production of a second, I have but to remove that, in the same manner, and follow up their cure with such constitutional treatment, as may prevent the appearance of the dreaded secondary symptoms.” Should nothing result from the inoculation, of course no preventive treatment would be necessary, and the patient, if he have the proper confidence in your skill, will be relieved from all apprehension.

The beginning and progress of the chancre, the result of inoculation, or whenever the virus by any means has found a lodgment beneath the epidermis or epithelium, has been described in the third chapter, but this is by no means the only form in which the chancre exhibits itself. A mucous or sebaceous follicle is the common seat of the disease ; often a scratch, an erosion, or an ulcer already existing, is the part infected. The matter may also be carried into a lymphatic vessel or gland, and there produce its specific result. Finally, it is maintained by some surgeons, that the virus, in a particular state of the absorbents, may be taken up and carried to the glands of the groin, producing bubo, or go directly into the system, when the first indication of the disease will be the development of secondary symptoms.

When the virus penetrates a mucous or sebaceous follicle, whose orifice afterwards becomes obliterated, a small tubercular abscess is formed, which afterwards presents

all the appearances of chancre; and the same effect is produced in the sub-mucous or sub-cutaneous tissues, when the poison is introduced by a leech-bite or such other means as will allow the edges of the wound to unite. In the lymphatics and glands, the result is a syphilitic ulcer. When the virus is applied to a denuded surface, there will be ulceration from the commencement.

Chancres may exist in the urethra of the male, and in the vagina and uterus of the female, in which cases the outward symptoms are those of a gonorrhœa. When they are seated near the mouth of the urethra in the male, they may sometimes be discovered by pulling it open, as seen in *Plate III*. In the female they must be sought for with the speculum. These concealed chancres with gonorrhœal symptoms, have given rise to the opinion that the diseases were identical. As in other cases, the test is inoculation.

There exist, sometimes, chancres so superficial as not to destroy the entire thickness of the skin. These are not always attended with induration, and the raised margins correspond with the depth of ulceration.

In general, the local progress of a chancre is soon limited by the deposition of plastic lymph, which forms the characteristic induration. But under certain constitutional or local circumstances, the ulceration goes on, and is then termed phagedenic, and this kind may be of several varieties.

One kind bears a resemblance to hospital gangrene, and spreads over the surface in a serpentine or ring-like manner. The depth of these sores bears no proportion to their surface—the parts are not much swollen, and there is none of the characteristic induration. This extensive superficial ulceration has been thought to be less frequently followed by secondary symptoms than other forms of the chancre; but this result may have been the consequence of the treatment. It lasts, sometimes, more than a year.

An excess of induration sometimes seems to destroy the part, and subjects it to an indolent, gangrenous affection, which, beginning at the surface, gradually increases in depth, unless the induration is destroyed. These gangrenous symptoms do not extend beyond the limits of the induration.

A gangrene, accompanied with gray or black sloughing which destroys the chancre, is sometimes caused by inflammation.

All these varieties may be complicated with each other; and the same chancre may, in its different parts, exhibit different appearances.

The different forms of chancres do not appear to be the result of any modifications in the nature of the poison, but rather to be caused by differences in temperaments, habits, ages, and conditions of individuals.

A caution may here be given in regard to inoculation. A patient who has a phagedenic chancre on one part will be likely to have another as the result of inoculation, which accident, therefore, is to be avoided.

It will have been seen that the diagnosis of chancre is not without its difficulties. There are, however, certain appearances which are seldom absent. The chancre usually begins with an itching in the part. If on the glans penis, a small pimple, full of matter, but without much hardness or tumefaction, is developed. The itching gradually turns to pain, and the pimple is either excoriated or becomes the scab of an ulcer. The parts are affected with a circumscribed thickening, terminating abruptly; the base is hardened; the edges elevated, indurated, and often excavated.

These characteristics, however, are not to be considered as absolute indications, on the one hand; while, on the other, I have spoken of chancres which vary materially from this description.

When a sore upon or about the organs of generation follows a suspicious sexual connexion, there is reason to suppose that it is syphilitic, and to treat it accordingly. If it be followed by a bubo, and in due time, by secondary affections, of course there is no room to doubt; but this kind of diagnosis is of little practical benefit. There however remains the nearly certain evidence afforded by inoculation, as proved in the experiments of Ricord, who has made Venereal Diseases a speciality, and to whom, for his researches in this branch of medicine and surgery, the whole world is indebted.

We must not allow ourselves to be deceived by the protestations of our patients, or by appearances favorable to the purity of those with whom they have had connexion. In regard to such diseases, one would think that the consequences which may arise from deception would be sufficient to induce candor. This, however, is certainly not always the case; while the patient may be, and often is, himself, deceived. The surgeon, while obtaining as correct information as possible from the patient, should still rely much more upon his own judgment. In delicate cases, he may properly conceal the real nature of the disease from the patient or others; or, where there are so many possibilities in regard to the mode in which it is contracted, he may take his choice as to the particular cause to which he attributes the disease.



All this must be left to the conscience of the medical adviser, and the particular circumstances of the case.

There is an important question as to the time which may elapse between the infection and the appearance of the chancre. It may come on within twenty-four hours, and there are authentic cases in which the virus has lain dormant, enclosed in a follicle perhaps, for eight or ten weeks, or even a longer period. It may also exist without the patient suspecting it.

Besides the genital organs, and the parts immediately adjacent, chancres sometimes occur upon the lips, and have even been detected upon the tongue and gums, caught in a manner, not very frequent perhaps, but still occasionally witnessed. M. Ricord gives three cases of undoubted chancre in the mouth, in one of which the patient was a poet of some celebrity, who avowed that in a moment of exaltation he had run the risk of direct contagion. Whether another term than exaltation might not have been used with more propriety, is, perhaps, a mere matter of *taste*. As, however, there are innocent means by which the syphilitic virus may be brought in contact with these parts, the patient had as well have the benefit of all such possibilities.

The prognosis of chancre in its simplest form, and unattended with the aggravations and complications above described, is regular and simple. In a good constitution, with temperate habits, it begins as a pustule, an abscess, or excoriation; it becomes an ulcer; its progress is stayed by an extravasation of lymph; it takes on the reparative stage; granulations form, and cicatrization follows, without treatment, in from three to five weeks. This is the natural and regular course of the primary syphilitic ulcer.

But, in a majority of cases, we must not look for results so favorable. Patients who are badly nourished, exposed to impure air, of dissipated habits, or, in short, of a debilitated or cachectic constitution, from whatever cause, are liable to have the cold, watery, and sloughing ulcer; while patients of a very robust and plethoric system, and those addicted to stimulating drinks, are likely to have a complication of the sloughing ulcer, with gangrene. The indurated ulcer seems to depend upon no constitutional habit from which we can predict its appearance.

In the most favorable situation, a simple chancre, under proper treatment, may be cured in eight or ten days. But when it is situated where a rupture of the cicatrization may occur every time the parts are disturbed, the progress of cure will be





Fig. 1.



Fig. 2.

Fig. 3.







## PLATE V.

PRIMARY ULCERS OF THE MEATUS URINARIUS AND PREPUCE: INFLAMMATION OF A LYMPHATIC VESSEL: BUBO, FOLLOWED BY  
ULCERATION AND ACCIDENTAL INOCULATION.

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BLENORRHAGIA: PRIMARY ULCER OF THE MEATUS URINARIUS: SUPPURATED LYMPHATIC VESSEL AND BUBO: ARTIFICIAL  
INOCULATION, WITH THE RESULT.

### FIRST CASE.

THIS patient, the subject of the first figure, had never had a venereal affection, previous to the attack of the present. Taking little care to examine the state of his genital organs, he perceived nothing remarkable. during the first three or four days, save a slight itching about the penis. Gradually considerable pain was felt in urinating, and, soon afterwards, a discharge from the urethra occurred. The lips of the meatus were swollen, and on turning them outward, a chancre in the urethra was discovered.

A few days after the appearance of these symptoms, for which no treatment had been directed, the prepuce became red, œdematous, and a phymosis ensued, with the symptoms of an active inflammation. Nearly at the same time, ulcerations showed themselves on the prepuce, produced by the inoculation of matter, furnished by the primitive ulcer in the meatus urinarius. An apothecary being consulted, the patient received some kind of medicine, and was put upon a general antiphlogistic regimen.

The fifteenth or twentieth day after the attack, lymphitis became apparent on the right side of the penis, near the root of which, on the tract of the vessel, a small tumor formed, which soon fluctuated, and was opened spontaneously, uncovering a focus offering all the characters of a primitive ulcer.

At the same time that the lymphatic inflammation showed itself, the glands of the right groin were becoming engorged. The bubo made rapid progress, and in ten to twelve days



after the commencement of the accident, it opened spontaneously, and discharged much sanious pus. Here, as in the ulceration of the lymphatic vessel, the skin was soon destroyed that covered the purulent centre. Finally, a short time after, in consequence of a custom that the patient had of leaving the penis, during the night, to repose on the right groin, the skin, where the scrotum begins, which was thus brought in contact with the chancre of the lymphatic, became the seat of a similar ulceration.

The disease making such progress, the patient lost all confidence that at first he had accorded to the treatment ordered by his apothecary; he ceased the use of remedies, and returned to his work again, which caused much irritation in the affected parts.

The day that he came under regular treatment, we remarked on the patient an accidental phymosis. The contracted prepuce formed in front of the glans a considerable projection; and that cedematous portion, turned back and outwards, allows us to perceive a primitive ulcer extending itself on all the right side of the prepuce. This ulcer, produced by the re-union of many ulcerations, originally separated and developed in the folds of the limb of the prepuce, has edges that are very irregularly cut; the whole thickness of the mucous membrane is neatly removed, and the ulcerated surface is covered over by a false membrane, of a grayish color and adherent, which, in three fourths of its extent, presents very small red points very near to each other, and are produced by a sort of hæmorrhagic transudation.

On the sheath, near the root of the penis, the chancre resulting from the ulceration of the lymphatic, has all the characters of the period of progress; its surface is covered by a false adherent membrane, soft and grayish.

Further behind, at the junction of the scrotum with the skin of the abdomen, the chancre, resulting from inoculation by contiguity, offers, in a smaller extent, the most perfect resemblance to the ulcer that we have described, with this particular difference, that here the loosening of the skin is more considerable, and the pus, filtrating beneath, has formed in the cellular tissue a virulent abscess, of which we perceive the opening ulcerated and quite-narrow, at the distance of about the third of an inch in the direction of the groin.

In the right inguinal region, an ulceration, with edges abruptly cut, cedematous, slightly turned out, and surrounded with a violet-red colored areola, the extent of which corresponds with much regularity to that of the undermining of the skin, marks the place of the suppurated bubo. Here, again, we find the characters of the period of progress. The bottom of the ulcer is not so gray as that of the last chancre that we described, and shows itself under the influence of a species of hæmorrhagic transudation, to a degree still more marked than in the ulcer of the limb of the prepuce.

June 19th. Applied a cataplasin on the groin, and dressed the ulcerations with opium cerate. One fourth of full diet.

June 24th. Under the influence of repose and of opium dressings, the ulcers seem less irritated. Same dressings continued. Give half an allowance of food.

June 28th. There is now but little irritation, and the chancres of the different regions have a better aspect; their sides are less raised, and their bases appear to be cleaning in some points. Dressing and diet the same as before.

July 6th. Suppuration is everywhere abundant, but the surface of the chancres is less grayish. Dressed with lint moistened with aromatic wine. Same regimen.

July 10th. The surface of the ulcers continue to clean. There is an evident tendency to reparation. Cauterize with the nitrate of silver.

July 14th. The grayish bed which covers the surface of the ulcers, in some points appears to persist. Suspend the dressings with the wine. The chancres are touched with a brush wet with the tincture of pure iodine, and dressed with the tincture diluted. The diet is increased to three quarters of an allowance.

July 17th. In all parts there is a sensible amelioration, and the period of reparation is distinctly manifest: the surface of the ulcers is covered with granulations of a good nature, and the extent of each is diminished one half. In the groin, above all, the reparation is remarkable, and not the least undermining is now seen. Dressing with aromatic wine.

On the 24th of August, the different ulcerated points were perfectly cicatrized and without induration. Phymosis still continued, and it was removed by circumcision. It could now be seen that the lips of the meatus had been destroyed by a chancre, which, at this time, was cicatrized.

September 14th. Well in all respects.

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## SECOND CASE.

FOR three months this patient has been affected with a blenorrhagia, occasioning but little severe pain. During the most acute period of the malady, erections, even, were not painful; and it was only in urinating that there was a slight burning towards the meatus. Ten to twelve days after he presented himself, the discharge that the urethra furnished in but a small quantity, was white, and like the secretion of gonorrhœa. Twenty-five leeches were applied to the perineum. Two camphor pills were prescribed each night; cooling drinks, and abstinence from all exciting food. He afterwards took capsules of copaiba and cubebs, in the dose of twenty-five a day, when the running was nearly dried up, but still showing itself more or less, in direct proportion to the irritation which followed the sexual relations that the patient frequently allowed himself. This state lasted about a month and a half, when, after several days debauch, the discharge seemed notably increased, and some pains were felt at the meatus. These new symptoms have been remarked for the last twelve days. Nearly at the same time, the inguinal glands of the right side became tender and swollen.

Finally, on the tract of a lymphatic vessel, on the right side of the penis, two tumors are formed, that have increased with rapidity, presenting all the characters of very acute abscesses. The tumor which first showed itself, has its seat behind the base of the glans. At this time it offers, on its anterior side, a grayish ulceration, cutting in a very regular manner through the thick integuments, and on the bottom of which, the pus of the abscess

is in part seen. The second tumor, in the vicinity of the root of the penis, is covered with a very thin skin, but presents no opening.

The right inguinal region is the seat of a superficial bubo, circumscribed, very painful, and fluctuating; it developed itself at the same time as the tumor of which we have spoken, and its progress has been the same.

September 25th. Besides the accidents already described, on turning back the prepuce a reddish areola is seen around the meatus, and on separating the lips of the opening, a small gray ulcer may be perceived, occupying the superior commissure, but it is impossible to know to what depth it extends, because of the narrowness of the parts. On pressing on the urethra from behind forwards, a small quantity of bloody sero-purulent matter is forced out.

Pus collected at the meatus urinarius, has been inoculated on the left thigh. A drawing is made of the parts.

September 26th. The portion of ulcerated skin that covered the tumor at the base of the glans, was spontaneously detached during the night, and the purulent focus presents all the characters of a virulent ulceration in the period of progress.

The abscess at the root of the penis is opened by a single puncture. Apply poultices. Give a quarter of an allowance of aliment.

September 29th. The inoculation has furnished a pustule characteristic of primary syphilitic ulcer.

The lips of the meatus urinarius are separated, and the superior commissure is cauterized with the nitrate of silver. Dress with an ointment of calomel and opium. Half an allowance of food.

September 30th. The ulcer on the thigh, resulting from the inoculation, is cauterized with the Vienna-paste.

October 10th. Cauterizations with the nitrate of silver, and dressings with the aromatic wine, the employment of which was prescribed four days ago, has produced a remarkable amelioration. The ulcers are well cleaned, and their bottom has assumed a good aspect; numerous rose-colored granulations have pierced the bed of gray that covered the surface. The portions of skin that the ulceration has not destroyed, have contracted many points of adhesion with the subjacent tissues. Finally, the suppuration is less considerable, and the nature of the pus is of a better quality. We can perceive no longer the ulceration of the meatus, and the urethra furnishes no more pus. The ulceration of the thigh, cauterized by the Vienna-paste, is covered with a crust slightly depressed. Same dressing and regimen as before.

October 15th. The ulcerations present in many points the characters of the period of reparation. The inoculation is perfectly cicatrized. Same dressing. Give three quarters of an allowance of food.

October 20th. The whole of the bases of the ulcerations are rose-colored, and of a good nature; the extent of their surface is diminished more than one half. Dressings and diet the same.

October 25th. The ulcerations of the groin and that at the root of the penis are nearly cicatrized. Touch them lightly with caustic and dress them with dry lint.

October 29th. All is cicatrized, and no part can be found indurated. Discharged.



## EXPLANATION OF PLATE V.

*Figure 1.* The penis is turned on the left thigh, in such a way as to present a front view of the different ulcerated parts.

The mucous membrane of the thickened prepuce is the seat of a considerable œdema and is turned backwards. On the right side is an ulceration, with the margins irregularly cut out, and its surface is covered by a grayish matter. In the smallest part, the prepuce is strictured before the glans. Near the root of the penis is an ulceration which is the result of the suppuration of a lymphatic, the sides of which project and are undermined. Here the grayish false membrane covering the surface of the ulcer is thick and unequal. Behind this are two ulcerations caused by inoculation of the pus of the ulcer which we have just spoken of. The largest is the result of direct action, following the contact of the parts; the other has been produced by filtration of the matter beneath the skin in the cellular tissue.

The inguinal region presents an ulceration that has succeeded to a virulent bubo. On the side next to the thigh, the skin is more undermined than in any other part. All around the bluish color of the skin indicates the extent of the undermining. The surface of the ulcer is covered with an irregular false membrane, of the same nature as that of the other ulcerations, but having a reddish tint, proceeding from a kind of hæmorrhagic transudation that we often see in this species of ulceration.

*Figure 2.* The extremity of the glans is covered by the prepuce, on the inferior lip of which is a drop of purulent matter that has escaped from the meatus urinarius. Behind the base of the glans is a tumor developed on the tract of a lymphatic: a part of the skin which covers it is ulcerated. Towards the root of the penis is a tumor like that already spoken of. It is fluctuating, and shows at its centre a portion of very thin skin, on which we can already remark the first degree of alteration that announces, often, spontaneous perforation.

The right inguinal region presents a fluctuating tumor, which has followed the suppuration of superficial bubo.

The rose-color of the integuments indicates the extent of the purulent deposit, and everywhere the fluctuation is distinct.

much longer ; and other things being equal, a large chancre takes longer to heal than a small one ; though this rule seems to admit of exceptions, as sometimes several chancres of different sizes heal in the same time ; and it would also seem that several chancres will heal as quickly as if there were but one.

The duration of the diphtheritic chancre depends upon the constitution and the circumstances which affect it.

The serpiginous or annular chancre, when apparently almost cured, may break out again with more violence than ever.

The gangrenous sloughing chancre, though a horrible variety, is more easily controlled, and its speedy termination may be more confidently predicted.

The indurated sore, left to itself, will remain for an indefinite period ; or if it heals, a swelling, like cartilage, will remain, which yields very slowly to general and local treatment.

There are complications, liable to occur in two varieties of chancre, which demand the surgeon's most serious attention. In diphtheritic chancre, hæmorrhage, (where blood vessels are involved,) or fistulæ are to be dreaded, according to the situation and tissues implicated ; while a large and rapid destruction of the parts often attend the gangrenous sloughing chancre.

New ulcerations are liable to be produced wherever the virus comes in contact with a denuded, or tender, or pervious surface, and such an extension and continuance of the disease cannot be too carefully guarded against.

Buboes are by no means a necessary result of chancres, and their occurrence seems to depend much upon the seat of the primitive sore. They have never been known to follow a chancre on the thigh, and are seldom the result of sores upon the prepuce, or the superior portion of the glans penis. According to the statistics of the Parisian hospitals, eighty cases out of one hundred were the result of chancres upon the frenum. Females are much less liable to bubo than males ; and, when it does appear in them, the chancre is usually found in the vicinity of the meatus urinarius. The anatomical reasons for bubo more frequently following chancres in these situations are sufficiently obvious.

Though it is agreed that the chancre in its reparative stage no longer secretes or produces the specific virus, yet, as it is difficult to say precisely when that stage has fully taken place, and as one portion of a chancre may have healthy granulations, while in another and possibly a minute portion, the virus is still in action, sexual

connexion cannot be allowed with safety. There is another reason. A sore, about to heal, or which has just cicatrized, is liable to inflame and ulcerate from new irritation, and may, under these circumstances, take on the worst and most dreaded forms of the venereal ulcer. No medical man can safely take the responsibility of allowing sexual intercourse, when such a condition exists, with a proper regard to the safety of the patient, the party with whom intercourse is had, or their possible offspring. There should be no doubt or hesitation in a matter so vitally important. In such a case, "caution is the parent of safety."

We come now to the most important subject connected with the prognosis of chancre, in which it is to be considered with reference to the probability of general infection, or secondary symptoms.

It is the opinion of Ricord, that if the chancre is destroyed within the fifth day from the period of infection, no secondary symptoms are to be apprehended. Acton, a pupil of Ricord, says, that when the chancre has proceeded beyond the vesicular form, seen on the third day, freedom from constitutional effects cannot be guaranteed.

My own opinion is, that no person is absolutely free from the risk of general contagion from the first moment that the virus acts upon an exposed surface, or can be in any manner absorbed into the system. I believe that not only is bubo or glandular chancre formed by the direct absorption of the virus, but that it may be carried into the system without producing either chancre or bubo, and, after an indefinite period, produce the secondary symptoms. There are many cases in the books, and I have met with some in my own practice, which cannot be accounted for upon any other hypothesis.

Besides this, it is rare that the surgeon can get at the precise period of infection; and I am satisfied that the only safe course is to treat every case as if secondary symptoms were to be apprehended.

As chancre is the form in which syphilitic affections commonly begin, its proper treatment is an object of the first importance.

When the disease is submitted to the physician or surgeon at a sufficiently early stage, the first treatment indicated is what is termed the abortive. The object is to check, in the most speedy and effectual manner, the formation of the syphilitic virus. This may be done either by excision, or by potential cauterization, or by both combined, which is a more thorough practice, and the one I have found effectual.



The patient presents himself, with one or more pustules upon the glans penis, or a chancrous ulcer upon the prepuce. In the former case excision may be difficult. The common practice is to rupture the pustule with a lancet, and cauterize the ulcer with a pointed stick of the nitrate of silver. Should this not destroy the ulceration, the operation must be repeated. When the pustule or chancre is upon the prepuce, if not too extensive, I prefer to raise it with a pair of delicate four-pronged forceps, and cut it completely away, cauterizing the wound afterwards, and in both cases I prefer the caustic potash to the nitrate of silver. They both act upon the same principle, but the one that does its work most thoroughly is to be preferred. And it may here be set down as a rule that any lesion or abrasion, after a suspicious intercourse, should be cauterized without hesitation, and without waiting to see what it will come to.

It is true, however, that, without reference to the treatment, secondary symptoms do not follow every case of chancre, and that the longer the chancre continues, the more liable are they to follow. I would state the proposition differently; I would say, that the smaller the quantity of virus absorbed, the more likely is it to be thrown off, or neutralized, and the more distant or less frequent would be the chances of a development of constitutional symptoms.

The situation of chancres does not, as it does with bubo, make any apparent difference in the frequency of the appearance of the secondary disease; but in regard to the varieties, there is a remarkable difference. The *serpiginous* sore and the *gangrenous* ulcer are seldom followed by these symptoms—the *phagedenic diphtheritic* occasionally gives rise to them, and the *indurated* almost always. It was this fact which induced Mr. Hunter to believe, that the indurated base was an absolute syphilitic symptom, and that there were no others. In fact, a chancre with induration is almost certain to be followed by secondary symptoms unless active preventive treatment is resorted to; and I cannot feel justified in neglecting such treatment in any case of syphilitic infection. The result has been that in an extensive practice of many years, I have never had a case of secondary syphilis, in which the primary affection has been under my treatment in any of its early stages.

It may be considered a disgrace to science, that no absolute antidote to this poison has ever been discovered—nothing that will at once meet the virus in the tissues that it has attacked, and neutralize its specific action. We are driven, therefore, to excision and cauterization.

Excision is always to be preferred, where the nature of the tissues will allow of it. To clip out a piece of the prepuce, even if it be a pretty large one, is of very little consequence; but upon, and behind the glans, and especially on the frenum, this cannot be accomplished. Here the caustic must be the remedy. I have said that I preferred the caustic potash to the nitrate of silver. Some caution must be had in its use. It should be applied with care, and in a good light; and as it liquifies rapidly, a piece of lint must be at hand to wipe it off or absorb it immediately, when it overruns the prescribed boundaries.

When the ulcer is spread over an abraded surface of some extent, the caustic may be passed lightly over the whole ulceration. In all cases, as soon as the eschar comes off, it should be looked to; and unless healthy granulations are forming, it must receive a second cauterization.

When the chancre is not at once destroyed, the French surgeons highly recommend dressings of lint dipped in aromatic wine. If prepared of the light and highly astringent red wines, this may be a good dressing, but I have found other astringent decoctions or solutions answer equally as well. The object is to check secretion and harden the surrounding tissues, so as to prevent the spread of the sore. Frequent and careful dressings are among the best anti-syphilitics. Quiet, temperance, and a proper constitutional condition are of course to be considered.

But shall we stop with this local treatment, and be content with the extirpation or rapid cure of the chancre? I have already given my reasons for pursuing a different course. I would never neglect local and constitutional preventive measures, as guards against the progress of the disease, and the development of secondary symptoms. Simultaneously with my first excision or cauterization of the incipient chancre, I take careful measures to check the advance of the enemy, in the direction of the groin. This I accomplish in the following manner:—I take two strips of adhesive-plaster, each an inch in width, and about two inches in length. These are spread with strong mercurial ointment, leaving a sufficient margin to cause them to adhere. They are then placed so that the two are made nearly to encircle the penis, one on either side. Applied in this mode the unpleasant effects, which, during erections, would ensue, if but a single strip going completely around the organ was employed, are avoided. The plaster, of course, is applied between the chancre and the groin. While using this remedy locally, I administer internally, some one of the preparations of mercury—preferring, commonly, the proto-iodide, the blue-pill, or Plummer's pill, until the gums are slightly affected.

I may not, indeed, be able to show the specific action of mercury upon the syphilitic virus, but I have found this course of treatment a safe and effectual one ; and until some further discoveries are made in regard to this disease and its remedies, I shall persist in this course of treatment. Those who are more afraid of the effects of mercury than the horrors of syphilis, will avoid the former—and risk, perhaps, the latter.

It may be denied that mercury is a specific remedy for syphilis : but it is also denied, and by a very high authority, that syphilis is itself a specific disease. We may as well let one denial offset the other. In what manner mercury acts upon the venereal virus, I do not pretend to say, but that it does act as a preventive and curative, there is no more doubt than of the existence of the disease. One supposition is, that it meets and neutralizes the poison, or unites with it and carries it out of the system. Another notion is that mercury takes a forcible possession of the absorbent and secretory organs, and drives everything else before it. Mr. Hunter's theory was that the tissues could not labor under two specific actions at the same time, and that the cure of the syphilitic action was the result of the mercurial.

I shall not offer any theory upon the subject. I regret that a more absolute and certain specific has not been found for syphilis ; but since it is the best and the safest I know of, I use it accordingly.

The action of mercury varies much in different constitutions. One patient may take large doses of blue-pill for weeks, without showing any symptoms of its action ; but, notwithstanding this, the disease is cured. In another, a few grains of calomel produces salivation ; while there are a few whose idiosyncrasies seem to forbid the use of mercury altogether. Prejudices may also oppose its administration ; but they who have exposed themselves to the action of the syphilitic poison, ought not to object to any other which may be necessary as an antidote.

The use of mercurial ointment as a local application to chancres, or that of any greasy substances, is to be strictly proscribed.\* Simple poultices and fomentations, with the dressings of aromatic wine, and an aqueous solution of opium, when indicated by the pain ; the black and yellow wash, or a solution of bichloride of mercury, are the best local applications that can be used, except the canterizations, as before mentioned.

As the state of the system may influence the forms which chancres are liable to take on, this cannot be too soon attended to. A full habit, and excesses in eating or drinking, may produce violent inflammation, tending to gangrene. In such a

\* *Wanderer* : *Why prohibited?* Many of the best authorities  
*have used them* : *Hunter among the rest.*



## PLATE VI.

### PRIMARY ULCER ON THE NECK OF THE UTERUS.

A PATIENT applied for advice who had, on the left side of the anterior extremity of the glans, an ulceration offering all the characteristics of chancre. Many questions were asked to ascertain the source of the infection, the reality of which was contested by the patient; for, he said that for a long time he had had sexual connexion with but one person, whom it was impossible to suspect, and who, besides, had been pronounced irreproachable, after an examination made minutely by a physician. Finally, an intimate friend of the patient, had, like him, had frequent sexual connexion with the woman, and yet his genital organs presented no trace of infection. Notwithstanding the value of such evidence to prove the health of the lady, it was believed to be a duty to neglect nothing for arriving at a conviction, and the woman presented herself, assured, said she, of her innocence, already established by a medical examination.

The examination commenced with the external genitals;—the genito-crural fold, the labia majora and minora, the folds around the clitoris, the fourchette, the carunculæ myrtiformes, and the infractuosities separating them, were separately and most carefully inspected, and no suspicious appearance was to be found; there was no abrasion, nor any trace of morbid secretions; the meatus urinarius was healthy, and pressure made from behind forwards on the urethra, with the aid of a finger introduced into the vagina, forced from the canal no abnormal discharge. The anus, likewise, showed all the characters of sound health. The speculum was applied, and the mucous membrane of the vagina, whether it was examined in front, at the moment of unfolding itself before the advance of the extremity of the instrument, or whether seen obliquely between its valves, when the instrument was rotated upon its diameter, was perfectly healthy as far as the neck of the uterus; but here the cause of the disease became evident. Towards the smallest part of the extremity of the neck of the uterus, on the right side, an ulceration was discovered exhibiting all the exterior characters of a primary syphilitic ulcer. Its diameter was about three lines, its edges were regularly round, cut as with a punch, and its bottom presented a grayish tint. Around the ulceration was an areola of a bright red color, about four lines in width. All other parts of the neck were in a healthy state.

There were seen, though with difficulty, traces of the purulent secretion furnished by the chancre, which was constantly bathed by the uterine and vaginal mucosities.

Finally, the orifice of the neck was healthy, and secreted transparent mucus, without any admixture of pus.

We may here remark, that during the investigation, the patient experienced no pain, and

it was, also, the absence of all morbid sensibility during sexual intercourse, which had satisfied her that she was free from disease. Moreover, direct pressure applied to the ulcer of the neck, revealed no disagreeable sensation. Matter taken from this chancre was inoculated in the thigh, and the characteristic pustule and sore were developed. Finally, the disease was cured by the general chancre treatment.

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#### EXPLANATION OF PLATE VI.

This plate is intended to present the genital organs of the female, conveniently disposed for the examination of the neck of the uterus with the assistance of the speculum. The design is taken at the moment when the surgeon has confided the handles of the instrument to the patient, the hand of whom rests on the genito-crural fold. We can thus dispense with the aid of an assistant, whose presence is always disagreeable in such cases; and the attention of the patient, fixed by the care she takes to discharge the functions which have been committed to her, is not without advantage in preventing her from making inopportune movements.

The woman is lying on an operating chair, the pelvis raised, and the thighs and legs bent. When the patient is in this position the speculum should be introduced nearly horizontally, with the handles directed to the side, as seen in the drawing, taking care to avoid pressure against the pubic-arch.

On the two sides are seen the folds of the mucous membrane of the vagina; at the bottom, the neck of the uterus projecting between the valves of the instrument. On the right side of the extremity of the neck of the uterus, is a chancre surrounded with a red areola. Everywhere else the membrane is of a natural color. The sides of the ulcer, the bottom of which is grayish, are round and deeply cut in.

From the mouth of the uterus, is escaping transparent mucus, which flows on the posterior lip of the neck, and is seen collected on the valve of the speculum placed below.

On the right thigh is a chancre produced by artificial inoculation as seen five days afterwards.

case antiphlogistic treatment and regimen, and general and local bleeding may be indicated. On the other hand, a purer air, better clothing, a higher diet, and even tonics may be required, where the constitutional tendency is the reverse. In cases of severe inflammation, it must be reduced, before the caustic can be used with safety, and in such cases, it is sometimes not proper to employ it at all.

During the reparative stage of the chancre, and as long as any hardness continues, the use of mercurial dressings and frictions around the part affected, with a mild mercurial course of constitutional treatment must be persevered in ; and in this is the best warrant of a perfect cure. I prefer to use frictions in all cases, and these alone may be sufficient, where mercury disagrees with the stomach and intestinal canal. Caustic may be used in the final stages, in keeping down the exuberant granulations ; it may also be passed lightly over the surface, to promote cicatrization. For these purposes the nitrate of silver is generally preferred, but there are cases in which the sulphate of copper may be used to greater advantage.

It remains for us to consider some chancres of particular situations, characters and complications, which must modify the treatment.

Chancre in the urethra causes a discharge as in gonorrhœa, with inflammation. Antiphlogistic treatment must be resorted to — leeches applied to the perineum and penis, emollient poultices and baths, opiates with camphor to prevent erections, and diluent drinks in large quantities : if abscesses appear at the mouth of the urethra they should be opened and the caustic applied. The chancres in any part of the urethra may be felt, if carefully sought for, and may be cauterized by the aid of an instrument invented for that and similar purposes. An injection of the aromatic wine, and a decoction of poppy heads may be used, or the wine alone, according to the inflammation. It is necessary, sometimes, to wear a small cylinder impregnated with the dressing, in the urethra, or a bougie, if deeper seated, when the chancre is healing. If the discharge is dependent upon the chancre, it will cease with the cause which produced it ; but if it be a complication, it must be treated as in other cases. The preventive mercurial treatment does not vary from that which is necessary when the chancre occupies external situations.

In females, when the chancre is deep in the vagina, or upon or within the uterus, the speculum vaginæ must be used at every dressing : when it occurs upon the anus, or within the rectum, great cleanliness must be observed and the dressing repeated at every stool, the operation of which should be rendered as easy as possible ; muc-



luginous clysters may be given for that purpose. If lint cannot be retained without pain, the dressing must be simple injection. Care in diagnosis must be had in these cases, as such ulcers are sometimes mistaken for other affections of the rectum, and operations performed will only aggravate the complaint.

Superficial chancres, which sometimes spread over the glans penis, require merely a slight cauterization, and a thin dressing of lint between the surface and the prepuce.

In the phagedenic or eating chancre, when the frenum is destroyed, or the surface undermined, or bridges made, these parts must be divided to give a better opportunity for cauterizing them.

When the phagedenic, diptheritic, or pulpy chancre makes its appearance, we must first direct our attention to the constitutional causes which have produced it. The dwelling of the patient may be cold and damp; removal to a warm and dry situation may be all that is required to make the disease assume a favorable character. A removal from a warm to a cold climate produces sometimes a very bad effect, while a beneficial result comes from a contrary movement. Whatever may be the general causes, the low state of the system must be the object of our first attentions: a proper constitutional treatment, a generous diet, tonics, and other invigorating measures, will probably produce the wished-for change.

The idea that the rapid progress and frightful appearance of this kind of sloughing chancres depend upon any special virulence of the poison, must not be entertained; nor will it do for us to attack it by a violent exhibition of mercurials. These are to be used cautiously in this stage of the disease, as they frequently aggravate the symptoms.

After and during the constitutional treatment, deep and frequent cauterizations and the vegetable astringent lotions must be resorted to.

The immediate pain of cauterization with the nitrate of silver, should not prevent its frequent use in this form of the disorder, for, as Ricord truly observes, caustic is "the most efficacious sedative and certain antiphlogistic which can be applied." But should these means fail in proving beneficial, as they sometimes do, we must resort to other and various means. In some cases the fatty ointments, such as opium cerate with calomel, melted wax, or digestive ointments, may have a good effect. In others the most powerful caustics—the butter of antimony, caustic potash, and even the actual cautery have been used to advantage. Ricord uses the Vienna paste, blisters, and powdered cantharides.

But occasionally, in spite of canterizations, emollients, antiphlogistics or narcotics, the chancre will progress or remain stationary. In such a case, the application of a blister or powdered cantharides to a surface ulcer, or the filling up of a deep-seated one with the same article for twenty-four hours, followed by an astringent dressing, has promoted a healthy change. Sometimes it will be necessary to repeat these applications. In extensive and undermined ulcerations, it is often necessary to destroy the thin surface, which is best done by caustics.

Mercury must be used or avoided, according to its effects. In some cases, it evidently aggravates the symptoms. In others it seems indispensable to a cure.

The most dreaded form of the chancre is that which is accompanied with a high degree of inflammation, and is attended with gangrene, and the destruction of the organs of generation. It is generally caused by intemperance, or irritation, and is accompanied with general and local inflammatory symptoms, which it is our first duty to reduce.

In these cases, we find the entire penis swollen to distortion, and colored a bright or purplish red, with a copious discharge from the point of ulceration. When the prepuce is attacked with this inflammation, after a few days a black spot appears, which enlarges until the whole glans may be seen through it, and in this is involved the entire destruction of the prepuce, as what remains must be removed with a knife.

In such cases, I do not assert that general bleeding is always unnecessary, but I have never had occasion to use it, and have generally found the febrile symptoms yield to tartar-emetic. The black wash, introduced with a syringe under the prepuce, is an excellent application. When the destructive process has threatened to destroy the glans and involve the whole penis, washing the diseased surfaces with a strong solution of the muriate of antimony, or with nitric acid, has checked the gangrene. In some cases, with patients of a peculiar temperament or condition, the inflammatory and gangrenous action goes on uncontrolled, and the penis sloughs away, close to the pubes, leaving a mere apophysis for the organ, scarcely and with difficulty serving for urinary purposes.

There is one condition of the sloughing of this organ, for the arrest of which no means have been found even tolerably effectual. It is when the portions attacked have a softness resembling melted tallow just beginning to harden. Colles, who had an extensive army practice, says he had never seen the destruction of the penis stopped for a moment, when attacked in this manner.



The hemorrhages which are often occasioned by the progress of the inflammatory gangrenous chancre, are sometimes favorable to the cure by relieving pain and inflammation—but they are to be watched with care, for occasionally the grave symptoms are renewed and the bleedings recommence, until at length the patient sinks into a low, typhoid, irritative fever. Sleepless, haggard, emaciated, and in constant dread of fresh hemorrhages, he gets no relief, but by slitting the prepuce to the point of sloughing, and compressing the bleeding vessels with a dossil of lint dipped in spirits of turpentine, which acts as a stimulant as well as a styptic. Ligature is of little service in these cases. In the use of the turpentine spirits, the neighboring parts must of course be protected from its fiery irritation.

Sloughing of the prepuce has been considered as so effectual a cure of the specific nature of the disease as to prevent secondary symptoms. It would be unsafe to trust to this although there were no facts to prove the contrary.

There remains but one form of the primitive chancre which is of sufficient importance to call for special attention. It is that of which I have spoken as the *indurated*. Of this kind there are two principal varieties, the simple and the phagedenic.

When induration takes place in a simple chancre, whether it be the result of cauterization, or a characteristic symptom of the disease, the use of caustic must be at once abandoned. If it suppurate freely, it may be washed with aromatic wine and treated with an ointment of mercury and opium. Great care must be taken in the dressings, as irritations are apt to produce unmanageable sloughings.

Nothing is more likely to prove useful in these cases than the exhibition of mercury, both internally and by friction, especially the latter; and as long as induration remains, there is no safety against the breaking out of the chancre as well as the appearance of secondary symptoms.

In indurations, the French surgeons have used with success the mercurial preparations which are combined with iodine, as the proto-iodide of mercury. Ricord recommends it, in one grain doses, in combination with henbane, every night in a pill five hours after the last meal; after a week the dose is increased, and a pill taken both night and morning. The pills are to be continued after cicatrization, and gradually diminished. Salivation, if possible, is to be avoided, as the irritation which attends it is unfavorable.

Excision of the indurated chancre can seldom be practised. It must be complete, to be effectual.



When, from excessive induration, the chancre takes on a phagedenic character, it is to be treated for the cause rather than effect, and mercury, not generally used in sloughing sores, may here be used with success. Irritation and nervous excitement may be met by the opium solution locally, and morphia internally used ; and in all these complications, nothing is so important as quiet and rest.

Before closing my remarks upon this class of primary syphilitic symptoms, I am anxious to impress the importance of a prompt *abortive* treatment in the first instance. If there is any doubt in regard to the syphilitic character of a sore, inoculation is an easy and a sure test, but of course it is to be practised upon the patient alone. In the complications and varieties of chancre, the general health cannot be too carefully attended to. When the system is in its proper tone, the disease is easy to manage. I trust that the importance of the mercurial course in all cases need not be farther insisted upon.

The concealed chancres of the urethra demand the surgeon's utmost care. Very recently I have had a case of undoubted secondary syphilis, which I can trace only to a supposed gonorrhœa ; the result proves that the blenorrhagia was either produced by or was complicated with a chancre. Here again a true test is to be found in inoculation.

## PLATE VII.

### PRIMARY ULCERS: EARLY SECONDARY SYMPTOMS:

THE subject of this drawing, 35 years of age, of good constitution, had never had syphilitic disease before the present attack, and had always been perfectly free from eruptions on the skin. She presented herself for advice on the 8th day of July, with a chancre on the external labium, which had been first observed eight days previously, and a pustule seated on the internal labium, that was first noticed four days before our interview.

The chancre was indurated, and its edges were abrupt and elevated.

After having ruptured the pustule, the nitrate of silver was applied to both sores. They were then dressed with lint moistened with the yellow-wash. A pill of blue-mass, containing five grains, was administered morning and evening.

At the end of two weeks of treatment, both chancres had cicatrized, and the gums were quite sore from the influence of the mercury, which was, therefore, suspended for a few days, until this accident had disappeared, when it was resumed again in the dose of one pill at bed-time. In this manner the patient was kept under the action of mercury for three weeks, at which time the case was considered to be cured. The decoction of sarsaparilla was directed for another week, when every vestige of the disease having disappeared, all further medication was discontinued.

At the end of a month, on the 25th of August, the patient re-applied for advice for an eruption of roseola that was distributed in patches over the whole cutaneous surface, resembling the drawing in *Plate XV.* with some swelling and inflammation of the fauces and tonsils.

The treatment consisted in minute doses of the bichloride of mercury in pills, and vapor baths every other day, for a week. In about ten days the eruption had vanished and the skin had resumed a natural appearance.

The mercurial was laid aside, and the iodide of potassium administered, dissolved in a concentrated compound decoction of sarsaparilla. Two scruples of the salt were added to eight ounces of the decoction, and given in the dose of a table-spoonful three times a day. Warm baths were ordered once or twice a week. This plan of treatment was continued for a month, when the patient was dismissed, apparently perfectly free from all disease.

Three years have since elapsed, and, not having heard anything to the contrary, I am satisfied the last treatment was effectual.

The chief peculiarity of this case consists in the appearance of the secondary symptoms, succeeding so soon to the primary ulceration. It will be observed, that, although the primary disease was of short duration, and uncomplicated with an affection in the inguinal regions, yet, not a month expired after the ulcers had healed, before the constitutional disease developed itself.

The ulcers, as they appear in the drawing, are small in size, and they never after much exceeded this extent. No unusual sign ever manifested itself, and they yielded most readily to remedies.



## PLATE VIII.

### NON-INDURATED PRIMARY ULCERATION OF THE UPPER GUM.

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### NON-INDURATED PRIMARY ULCERATION OF THE FRENUM, (PERFORATING CHANCER): PARAPHYMOSIS.

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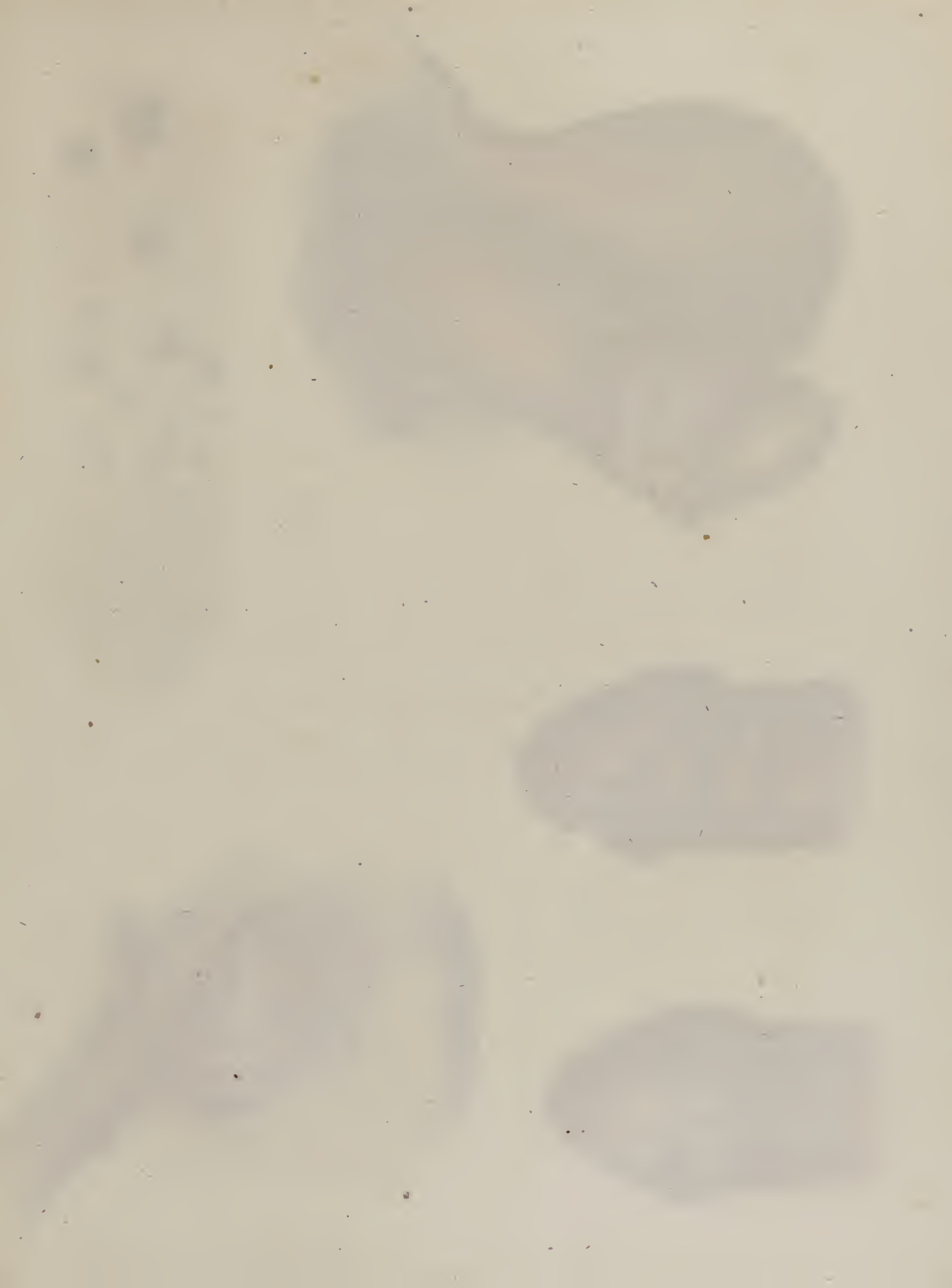
### INDURATED GANGRENOUS CHANCER: VESICULO-PUSTULOUS ERUPTION: EARLY SECONDARY ACCIDENTS.

#### FIRST CASE.

HERE is a virulent primary ulcer of the gum, contracted by the application of the mouth to the genital organs of a woman affected with chancre.

This is the only example that we have met with; and this proves that chancres of the gums are much more rare than virulent ulcerations of the lips and of the tongue, which we have had occasion to observe many times. This ulceration, which is not of long standing, followed the ordinary progress of non-indurated chancre. It was cured under the influence of cauterizations often repeated with the nitrate of silver, and of lotions with the aromatic wine.

The design, in signalizing this example, is to prove that the inoculable virulent syphilitic pus, has not for its seat of election such-or-such organs in particular, and that it acts always, at first locally, in every place where it meets with the conditions necessary for its development. This case proves, farther, that the gravity of syphilis does not depend, as has been said, upon the situation of the primitive accident. The patient had not received any constitutional infection, as we were able to verify, a long time after such symptoms ought to have been manifested.





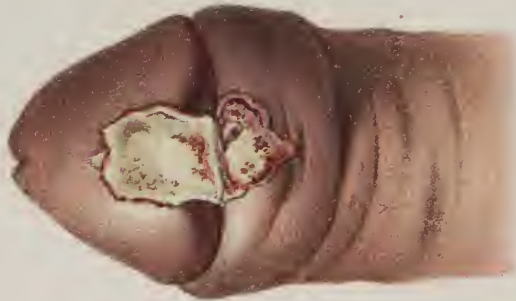




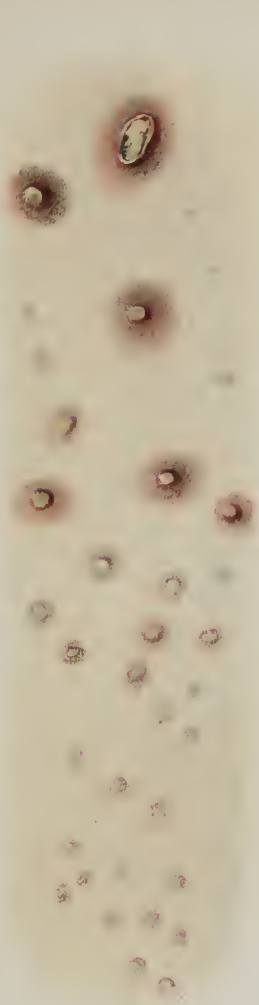
*Fig. 4.*



*Fig. 3.*



*Fig. 2.*



*Fig. 1.*





## SECOND CASE.

CHANCRE is often met with on the frenum, or in its vicinity.

The introduction and confinement of virulent pus in the numerous follicles with which that region is furnished, the frets of the epidermis and the abrasion that happen during sexual intercourse, constitute so many causes which determine the predilection of the primary ulcer for this situation.

We find, in the homogeneousness of the tissue of the frenum, the reason why the chancre that establishes itself on it is nearly always of the perforating kind.

The part which, ordinarily, resists its invasion for the longest time, is that which encloses the artery. Sometimes it occurs that the virulent ulceration is cicatrized, before the frenum has been entirely eaten through; but then the cure is longer in being effected; and the frenum, often reduced to a thread, may become the occasion of new accidents from its rupture. For this reason it is always most prudent to practise the section, as has been done on this patient, after the following method: We cut, with a fine scissors, even with the two points of insertion. After the section, we must be careful to arrest the hæmorrhage, the consequences of which, unimportant, in the first view, may become very grave. Persons have fallen victims to the effects of hæmorrhages of this kind. Generally, we pinch with the fingers the parts whence the blood escapes, and cauterize them with the nitrate of silver. The application of cold, agaric, and other hæmostatic means, will frequently be sufficient. In some rare cases where the hæmorrhage was obstinate, we have been forced to pierce the tissues with a pin, and make compression by applying a figure-of-eight ligature. Or we may at once, before dividing the frenum, place a ligature at each of the two extremities, with a thread of silk. In this way we certainly prevent hæmorrhage; and the absence of pain during the section, compensates for that which is occasioned by the ligature.

The treatment of this patient consisted in the cauterization of the ulcer with the nitrate of silver, and dressings were made with lint soaked in aromatic wine.

Each inguinal region became, at the same time, the seat of an acute inflammation of a superficial ganglion. These buboes suppurred, and remained virulent in spite of the mercurial treatment that the patient had already undergone, before coming under our care.

## THIRD CASE.

THE patient, who furnished the subject of *figure 4, (Plate VIII.)* has a decidedly lymphatic constitution. He was vaccinated in his infancy, and, up to the age of twenty-five, had never had a cutaneous affection.

The day following an impure connexion with a public woman, he perceived an excoriation on the limb of the prepuce; presuming that it would get well of itself, he adopted no treatment. The excoriation became an ulceration that indurated, and many ganglions in the groin swelled without occasioning much pain.



For three weeks the ulceration remained indolent : it scarcely suppurated, and made but little progress.

All at once it became inflammatory and painful, in consequence of excesses committed in drinking. The swelling increased; suppuration augmented, and the ulcerated surface, which had been grayish up to that time, was covered with black points, evidently gangrenous.

The prepuce had always been moveable on the glans, and habitually covered it; but the patient wishing to leave the ulceration uncovered, took it into his head one day to pull it strongly backwards, which resulted in a paraphymosis, complicated with a hard œdema.

When the patient came under our care, the ulceration had continued for six weeks; it was large and projecting; its base presented the characteristic induration, and there was an œdematous engorgement of the neighboring parts. Its sides were turned a little outward, but without being undermined. On its surface, rose-colored granulations, of the period of reparation, already appeared; nevertheless, in some points, were still seen traces of the molecular gangrene which had existed.

We found, in the inguinal region, many ganglions that presented to the touch a kind of elastic induration; they were indolent, isolated, and moveable under the skin.

The absence of all treatment, the advance of the successive accidents, and the nature of the primitive ulceration, made us reasonably suppose, that in this patient, there existed the syphilitic diathesis. It is true, the ulceration had been gangrenous; but the tardy gangrene did not hinder the constitutional infection.

We prescribed the decoction of sarsaparilla, a mild regimen, and baths. The ulceration was dressed with lint, spread with opiate cerate.

The patient followed this treatment for about three weeks, when he experienced nocturnal pains over the eyes, and vague pains in the neighborhood of the joints; he had besides, an engorgement of the posterior cervical ganglions, accompanied with distress in the movements of the neck. His color had become a little chlorotic. There was no trouble in the circulation, except a slight bruit-de-souffle of the heart.

The skin, which up to this time had presented nothing particular, was covered with small red points, like flea-bites. This eruption was not over the whole body at one time; it was seated on the trunk and members; it had not been preceded, nor was it accompanied with fever; it produced no itchings.

Aside from the antecedents that we have noticed, no accessory cause of evolution could be appreciated. These red maculæ, that a slight pressure caused momentarily to disappear, were soon succeeded by small miliary elevations, filled by a serosity, semi-transparent and grayish, that had raised the epidermis. As they advanced, they became like the vesicles of eczema. They were surrounded by a circle of rose-color, the tint of which grew deeper as the eruption itself progressed. They terminated by assuming the vesiculo-pustulous form of conoid varicella.

The eruption continued for more than six weeks, but in every part it did not travel through all the different phases of its development.

In many places it died away during the stage of maculæ, without leaving any trace of its existence.

A great many miliary or eczematous vesicles, that were dried up and absorbed, have left,

after their dessication, but a slight desquamation of their epidermis, without any stains remaining behind.

Where the eruption had advanced farther, the liquid, which had become purulent, was not absorbed; it formed, in drying, a great number of gray or greenish crusts, some of which adhered for more than fifteen days. When they fell off, we found at the place they had occupied, a smooth reddish spot, surrounded with a gray border, produced by the loss of the epidermis.

The crusts that were prematurely removed, uncovered a slightly ulcerated surface; and we observed, after the dessication of some of the pustules, slight depressions and cicatrices of the skin.

As to the primitive ulcer, its cicatrization was not obtained until after the disappearance of the cutaneous accident. It was dressed with lint, spread with the following ointment:

R. Unguent. Opii, part. xxx.  
Hydrarg. Proto-Chlorid. part. ij. M.

No local treatment was adopted for the engorgement of the inguinal ganglions. That engorgement disappeared in about two months, and the induration of the chancre in about three months, under the influence of the general treatment below described.

Every day, eight ounces of a decoction of the stalks of *dulcamara*,edulcorated with two ounces of the syrup of gentian. Every night, one of the following pills:

R. Proto-iodide of Mercury,  
Ext. Lactucarii, āā. grs. xlv.  
Ext. Opii, grs. xv.  
Ext. Conii, 3iss. M. Divide in 60 pills.

At the end of eight days, two pills were administered; eight days afterwards, the dose was raised to three a day. At the same time he was directed to have two baths a week; and his bowels were kept open with Seidlitz-water administered from time to time.

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## EXPLANATION OF PLATE VIII.

*Figure 1.* A non-indurated primary ulcer of the gum, at the period of progress.

*Figure 3.* A non-indurated primitive ulcer of the frenum: paraphymosis.

*Figure 2.* The same ulceration seen after the division of the frenum.

*Figure 4.* Indurated primitive ulcer, with interstitial gangrene: period of reparation in some points. The patch above represents the vesiculo-pustulous eruption in different degrees of development.

## CHAPTER VI.

### PRIMARY SYPHILIS.—BUBO.

**BUBO**—its definition.—First symptoms.—Other causes than syphilis.—Men more liable than women to have them.—Chancres about the frenum most apt to cause them.—Diagnosis of syphilitic bubo.—*Treatment*—the abortive ! cold ; compression, and antiphlogistic regimen.—Treatment in a more advanced stage.—When pus has formed, the bubo must be immediately opened.—Treatment of the ulcer.—Inoculation a test of its specific character.—Mercury should be employed for its constitutional effects.—Powerful stimulants or caustics in some cases required.—Indurations following bubo.—Fistulous openings.

**BUBO** is a circumscribed swelling of a lymphatic vessel or gland. It usually appears in the groin, but may exist in the arm-pits, beneath the under-jaw, or in other situations.

A venereal bubo is one which is the consequence of sexual intercourse,—a syphilitic one is either produced by the absorption of the syphilitic virus, or is connected with the secondary symptoms which I shall consider hereafter.

Often the first indications of a bubo is the swelling of an inflamed lymphatic vessel extending from the chancre, along the penis, to the groin. At the first inflammation and swelling of the gland, it is moveable, but it soon becomes adherent to the surrounding tissues, and the skin itself is implicated in the formation of the tumor. When the swelling is great, the circulation of the limb may be impeded, causing a varicose state, or œdema, or both conjoined.

The first question in regard to a bubo is, what is its character ? Out of a hundred buboes only about twenty are truly syphilitic. These are neither more nor less than deep seated chancres, whose development, suppuration, and termination, according to the laws which govern chancres, proceed regularly, and can but seldom be prevented.



A bubo may be produced by exertion, wet feet, wounds and other injuries. It is the frequent accompaniment of gonorrhœa, and in this case is supposed to depend upon sympathy with the irritation of the local disease. It may, in case of chancre, be only sympathetic, or it may be produced by the absorption of the virus, and assume, frequently, after suppuration, the character of a chancre.

Men are more liable to buboes than women; and chancres situated on or about the frenum in males, or about the meatus urinarius in females, more frequently produce them than when they are seated elsewhere. The artificial chancre, or that which is caused by inoculation on the thigh, has never been known to cause a bubo.

There seems to be no reasonable doubt that a bubo may be the consequence of direct absorption—that is to say, that the syphilitic virus under certain circumstances, may be carried to the gland, and produce the chancre there.

There are no certain indications that a bubo is syphilitic. If there be undoubted chancre, particularly around the frenum of the male or meatus urinarius of the female; if the bubo appear in the second or third week; or during cicatrization, if it appear in a superficial gland, and especially if it tend rapidly to suppuration, in spite of our efforts to prevent it, we may presume that it is syphilitic. Upon these circumstances must our prognosis be founded. At any time after its first stage, the syphilitic bubo may be expected to go on to suppuration.

A bubo is liable to become indolent, or indurated; and in either case it may be of difficult cure and protracted duration. While, therefore, buboes are non-syphilitic in a vast majority of cases, the truly virulent are always to be dreaded, and carefully guarded against. To this end, I know of no better means than the application of mercurial plasters to the penis and the thighs in the early stage of the chancre, or following its extirpation; they should be closely watched for, and, if possible, treated in such a manner as to produce their immediate abortion.

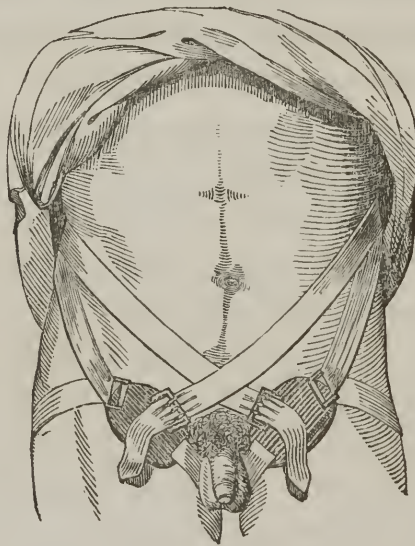
Since, then, the diagnosis of bubo is, at best, obscure; since in so great a majority of cases they are sympathetic, and not idiopathic; and since, even when caused by the absorption of the virus, they may be, or apparently are, checked in the first stage of formation, the treatment termed *abortive*, is to be practised in the commencement, in all cases; not that it is always effectual, but because that a bubo ought, if possible, to be prevented from advancing to suppuration.

Prompt measures should therefore be taken to repel and to scatter them, for several reasons. They are often excessively painful, and always annoying. If indo-

lent, they may continue for a great length of time, and if indurated, they are still worse. They are liable to extend beneath the integuments and form frightful sinuses down the thighs and into the surrounding parts. When they suppurate, they sometimes leave large scars, which are the permanent marks of their ravages—indications which every man would wish to avoid.

The cure of the chancre, I would here remark, checks the formation of a bubo. This is an additional reason why the caustic should be applied freely and promptly.

At the first stage of the bubo, it may be treated like any other inflammation, and without reference to its probable cause. Ice, or cold water, and compression, have been found useful in dissipating the swelling which has commenced. Some surgeons very strongly recommend compression, which proper bandages will very easily supply. [See the cut.] A reclined position, coolness of temperature, and what may be termed a general antiphlogistic regimen, will be favorable to whatever measures may be used for abortion.



*Truss for Compressing Buboes.*

If the bubo is somewhat advanced when the surgeon is called, it is still his duty, if possible, to effect resolution; and whatever his doubt in regard to its nature, he has this reflection for his comfort, that if the bubo be sympathetic, it will probably yield to his prescriptions—if syphilitic, they will do no harm; though in this case, after a certain period, suppuration is inevitable. When there is pain, redness, heat,

and swelling, vigorous antiphlogistic treatment must be resorted to : general bleeding, leeches, nauseating doses of tartarized antimony, cold washes, &c. Should these not be successful, warm fomentations frequently changed, or cloths dipped in warm water, may prove more effective. In an extensive practice for several years, I have frequently known a thick plaster of mercurial ointment to be used with excellent effect. Such a plaster, with the compress, and mercurial frictions on the inside of the thighs, is perhaps the best treatment for the indolent type a bubo often takes on after passing its inflammatory stage, and losing its tendency to suppuration. To produce this resolution of the tumor a more vigorous treatment is often necessary. A blister may be placed upon the bubo, followed by dressings of the mercurial ointment, and succeeded, if necessary, by other blisters.

A still more energetic treatment has been recommended by Malapert, a French army surgeon, and approved by Ricord. It is the following : Apply a blister, the size of a dollar-piece, for twenty-four hours. Then raise the cuticle and cover it with a piece of lint of a corresponding size, well saturated in a solution of one scruple of bichloride of mercury to one ounce of alcohol. Keep it in place from two to four hours — then cold applications for some hours ; when, Monsieur Malapert assures us, an eschar will be formed, and the tumor will subside. But Monsieur Malapert does not inform us of what we have already surmised, that this is a very painful treatment, and that a scar follows the cure.

Acton recommends that after the blister, a solution of the corrosive-sublimate in water, twenty grains to the ounce, be applied to an indolent bubo for one or two hours, if the patient can bear it, followed by an emollient poultice with laudanum.

These plans may be used with good effect on the failure of milder methods, and will hasten either resolution or suppuration, when the latter is inevitable. In the latter case, we shall have an ulcer, the treatment of which does not differ, generally, from that of the chancre.

But all these methods are useless, and worse than useless, by the delay they occasion. When the tumor shows fluctuation, and other indications of the existence of an abscess, especially if there is reason to suppose that the bubo is virulent, not a moment should be lost after the appearance of pus, before it is opened to allow its escape. The abscess will otherwise extend itself, and all the pus absorbed is so much virus carried into the system.

When an opening is to be made, we should prefer the lancet to caustics, and be



sure that it is sufficiently extensive, and made in the proper direction, which ought to be lengthwise of the tumor. If the tumor present a less formidable appearance, the opening may be less extensive, and in very mild cases, and especially in those which are not virulent, a simple puncture may answer every purpose. It is quite unnecessary to press out the pus when the incision is made; and in case the bubo is syphilitic, no tent will be required to keep it open, as the virus will immediately ulcerate the cut surfaces.

It is proper to add, that when the integuments of a bubo are blue, thin, and of a gangrenous appearance, distinguished authorities recommend that the opening be made, and the covering extensively destroyed at the same time, with caustic potash. I see no particular benefit in this method, and the choice between the caustic and scalpel may be left to the taste of the patient.

The bubo, having become an open ulcer, by artificial or natural means, requires a careful treatment, and may assume many morbid conditions, which will prevent cicatrization. Here a correct diagnosis is of the utmost importance, as it must guide the treatment. Should the opening prove a simple non-virulent ulcer, as are a large number, we have simply to lower the inflammation with anodyne lotions, fomentations, leeches, a low diet, repose, and gentle aperients, &c. Or, if the sore have an indolent type, more stimulating applications may be resorted to. Gentle pressure, by compresses and rollers may also be employed. Should there be sinuses, injections are sometimes of great service, and with their use we may often dispense with additional openings by means of the lancet or caustic. The treatment of the non-syphilitic ulceration of the glands, however, is but accidentally connected with the disease which we are considering, and the common books of surgery may be properly consulted in regard to such cases.

But when the surface of the ulcerated bubo is covered with a thick, yellowish slough; when the ulcer is indolent or disposed to spread; when its edges are red, angry, or elevated; when, in short, it develops a virulent and chancrous character, it requires the same treatment as a chancre in any other situation; and it must be remembered, that it may be truly syphilitic, although no chancre has been discovered on any other part, and though none has existed. In the latter case, it is the "*bubon d'emblee*," of the French surgeons. It is here that inoculation becomes a test as valuable as it is infallible, when properly made. All matter of the bubo will produce the characteristic pustule on the second day, when it has failed on the first.



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Fig. 1.



Fig. 2.

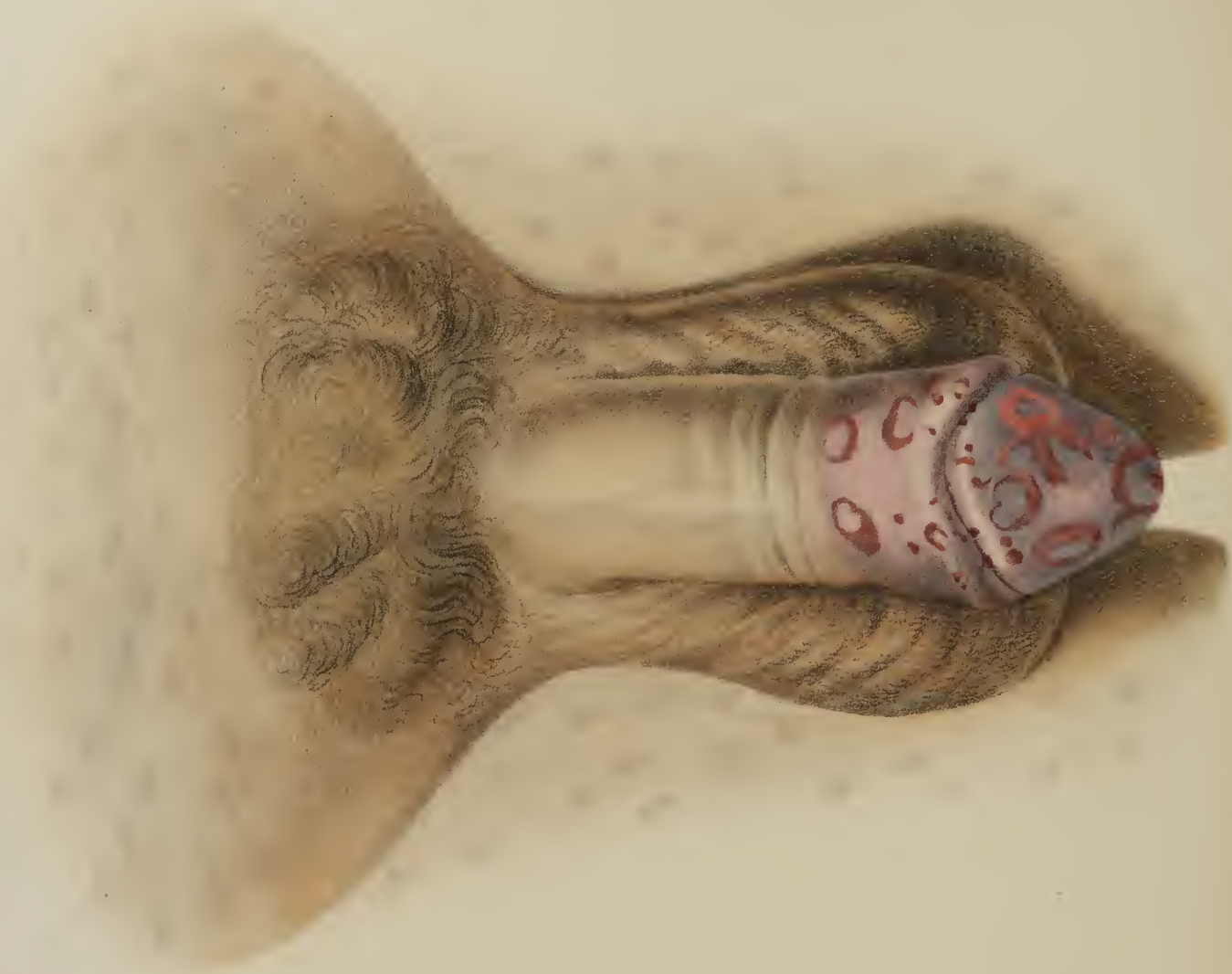


Fig. 3.







## PLATE IX.

### DIPHTHERITIC PRIMARY ULCER WITH A NON-INDURATED BASE: BALANO- POSTHITIS WITH EROSION: SYPHILITIC ROSEOLA.

THIS patient was unable to indicate very exactly the epoch of the beginning of this malady. All that he could say, was, that for six months he lived with the same woman, when, after a sexual excess, he discovered quite lively pains at the extremity of the penis. The exploration of the parts could only be effected with much difficulty, because of the narrowness of the prepuce. Nevertheless, the patient ascertained the presence of a grayish ulceration in the middle and superior region of the corona glandis.

Ten days after perceiving his malady, he presented himself for treatment. We found him affected with a balano-posthitis, accompanied with erosion; the ulceration of the crown of the glans was a diphtheritic chancre, having an indurated base. The eight or ten days before presenting himself, he was treated with a concentrated decoction of poppy-heads, a pill of the iodide of mercury every day, with a ptisan of dulcamara.

The 23d of June a drawing was taken of the parts. Nearly the whole of the glans was denuded of its epithelium, and presented a violet-red surface like that produced by a vesicatory, and which secreted a greenish purulent matter; the mucous membrane of the prepuce showed a state in all respects the same. On the crown of the glans and the median superior region, was an ulceration covered with a false membrane, thick, pultaceous, and every where adherent. The base of this ulceration was indurated, and this special hardness was very well distinguished from the inflammatory tension of which the adjacent tissues were the seat, by a sort of elasticity which is proper to it, and which considerably resembles certain cartilages.

The ulceration was dressed with calomel ointment; and lotions, made of two parts of nitrate of silver and two hundred of distilled water, were applied to the excoriated parts. The contact of the glans and prepuce was prevented, by interposing a bandelet of dry linen. Diet, half an allowance.

July 1st. The inflammatory swelling has nearly disappeared, and the balano-posthitis is notably modified. Suppuration is much diminished, apparently furnished only by the diphtheritic ulceration, and by some erosions which persist in the groove of the gland.

A pill of the proto-iodide of mercury was given daily, with the sudorific ptisan and syrup. Dressing and regimen the same.

July 10th. The ulceration of the crown of the gland is freed from the false pultaceous membrane that covered it. The mucous membrane of the prepuce presents no longer any erosions, and that of the gland shows only two or three very small excoriations. For the last two or three days, a partial stomatitis has manifested itself. The same general treatment: the ointment of calomel was continued, and the chancre touched with the nitrate of silver. Stop the lotions. The same regimen.

July 15th. The stomatitis has made progress. The free sides of the gums are red, tumified, and bleed with facility; the mucous membrane of the cheeks, red and tender, is elevated by an œdematous swelling; in the points corresponding to the sides of the teeth, it presents a longitudinal line, irregular and grayish, having the aspect of apthæ; the uvula is rough and tumified, and the throat painful. The ptyalism is quite considerable.

The mercurial medication was suspended, the gums touched with a brush dipped in pure hydrochloric acid, and a gargle given made with the same acid.

The patient took a bottle of Seidlitz-water.

The chancre was touched with the nitrate of silver, and dressed with aromatic wine.

July 21st. There was no more ptyalism, nor pain in the throat. The gargles of hydrochloric acid were continued.

The chancre, which for the last two days was dressed only with dry lint, is completely cicatrized, but its base still presents some induration. Directed half an allowance of food.

July 27th. Left to day. On the prepuce and on the glans, the epithelium has resumed the normal appearance, and the balano-posthitis is definitively cured; however, to consolidate his cure, we directed the patient to take, two months longer, the pills of the proto-iodide of mercury, with the sudorific syrup and ptisan.

August 20th. The same patient has returned, not having submitted to the treatment which had been prescribed; and, considering himself decidedly well, he surrendered himself to numerous excesses in living. Therefore, from his own account, scarcely a dozen days had passed after he took his leave as cured, when he excoriated the cicatrice of the chancre. He contented himself with lotions of the water of mallows; and soon, on the prepuce and on the glans, reddish spots were succeeded by small erosions that suppurated. The affected parts were slightly painful, but the disease followed a progressive march.

To day, the 21st of August, the seat of the primitive ulcer exhibits an eroded surface, covered with small granulations. On the gland and on the prepuce, some of the excoriations remarked by the patient, and of which we have already spoken, presented an analogous aspect; finally, here and there, on the mucous membrane, are perceived very small reddish maculæ.

In the posterior cervical region we can feel many tumified ganglions. These ganglions, of the bigness of a little nut, and moveable under the skin, offer a sort of renitency or elastic tension, and are perfectly indolent. The hair, dry and dull looking, is detached with facility.

There does not exist any other symptom of the constitutional infection. A drawing of the parts is taken. Allowed half a portion of aliment.

August 22d. Though the erosions of the gland and of the prepuce present all the exterior characters that belong to secondary affections, yet, as the patient had had sexual connexions some days after he left as cured, we collect some of the pus on the surface corresponding with the seat of the primitive ulcer, and we inoculate with it on the left thigh, with the view of ascertaining if there has been a new infection. The granulations that show themselves on the gland and on the mucous membrane of the prepuce, are repressed with the nitrate of silver. The aromatic wine is used as a dressing. We give a pill of the lactate of mercury and a diluent ptisan. Half an allowance of food.

August 25th. The inoculation has produced nothing.

By the action of the nitrate of silver, the granulations have been repressed, and the cauterized parts no longer project. The dressings with the aromatic wine are continued. Give two pills. The regimen is the same.

August 27th. The patient feels some slight disturbance of the stomach. The pills are, nevertheless, continued, in the quantity of three a day.

The ulcerations are cicatrized. The dressings are discontinued. The regimen remains the same.

In proportion as the ulcerations cicatrized, the small reddish spots, the presence of which we have noticed as being on the mucous membrane of the gland and on the prepuce, are extended, and, in many points, have assumed regularly circular configurations.

The skin of the trunk and of the members, especially in the seat of flexion, show, to-day, in a very apparent manner, an exanthematous confluent eruption, (syphilitic roseola) characterized, in the greater number, by full maculæ, and in some points, disposed in a circle. This eruption, consisting, evidently, in a capillary fluxion, that is readily effaced under the influence of slight pressure and soon re-appears, offers a general tint of a sombre rose-color.

In the intervals of the maculæ, the skin, in appearance, is earthy.

The same treatment and regimen.

August 30th. The patient has had some colic and a little diarrhœa. Prescribed rice water, and an ounce of the syrup of diacode. Same treatment and restricted diet.

The second of September a drawing was made of the eruption. There is no longer any diarrhœa. The treatment the same. Gave one quarter of the alimentary allowance.

September 5th. The syphilitic eruption, which, for several days past, seemed stationary, shows a tendency to resolution, and it is generally turned pale. Gave him four pills, and half an allowance of food.

September 6th, five pills: September 7th, six pills: September 8th, seven pills.

September 9th. The tumefaction of the cervical ganglions no longer exists. The syphilitic eruption has grown paler and paler, and the maculæ are scarcely visible on the trunk. The treatment and regimen the same.

September 11th. The cure progresses; the eruption on the penis is effaced. Gave eight pills of the lactate of mercury, and three quarters of the alimentary allowance.

September 20th. The cure of the syphilis seemed to be complete. The cicatrice of the primary ulcer presents no more specific induration. Treatment and regimen the same as before.

October, dismissed cured.



## EXPLANATION OF PLATE IX.

*Figure 1.* Indurated diptheritic ulcer, and balano-posthitis, with erosion, the drawing taken the 23d of June, the day after the patient presented himself.

The œdematous prepuce is drawn backwards so that we may see the middle and superior region of the base of the glans, with an ulcer covered with a false pultaceous membrane, adherent, and all the superior portion of the balanitic surface eroded. These parts have been cleansed from the pus that defiled them.

*Figure 2.* Secondary ulcerations with granulations shooting out, and commencing maculæ, drawn the 21st of August. The parts are disposed in the same way as in the first figure.

The seat of the primary ulcer is covered with numerous granulations, and there will be observed on the correspondent region of the prepuce, two small longitudinal erosions. At the base of the gland, and near the meatus urinarius, are groups of granulations as large as those of which we have already spoken, and which, produced by secondary excoriations, have a tendency to pass to the state of true vegetations. Here and there on the mucous membrane are very small reddish maculæ.

*Figure 3.* Drawing made the 2d of September, and disposed in such a manner as to show the eruption which has extended itself on the mucous membrane of the gland and on that of the prepuce. We see, at the same time, on the belly and on the thighs, the syphilitic roseola, confluent, constituted by rose maculæ, brownish, while those of the mucous membrane of the glans and prepuce are colored a lively red. The ring-like configuration is also much more remarkable in these last, and we can discover here the elements of their formation. Some of them, regularly shaped into a circle, surround small patches of healthy membrane; while others, at first full, are healing from the centre to the circumference, the annular form showing itself more and more.

Ricord found, too, that the syphilitic matter was contained in an encysted tumor, which was developed separate from the rest of the abscess.

When inflammation, phagedena, or gangrene occur, they must be treated on general principles, without regard to the specific nature of the bubo; and when these symptoms have yielded to the proper treatment, we turn again to the treatment of the specific chancre.

Frequent and careful dressings—the more frequent the better, to keep the virus as much as possible from the secreting surfaces; careful and thorough cauterizations; baths, and lotions of the aromatic wine, or other mild astringents, will generally eradicate the virulent action: the reparative process will then commence, healthy granulations fill the whole cavity of the ulcer, and cicatrization complete the cure. I scarcely need say, that the mercurial, preventive course, should never be neglected in these cases, nor too quickly brought to a close, even though it may be a choice between two evils; for any one who has seen as much of the effects of syphilis as I have, would rather be saturated with mercury than risk the slightest taint of constitutional venereal.

The cure of the bubo may be delayed by its taking on an indolent character, and by the thin, livid edges of the skin, which the disease has undermined. To remove these, where such removal is expedient, the caustic is perhaps to be preferred to knife or scissors. The Vienna-paste, composed of five parts of quick-lime, and six parts of caustic potash, mixed with sufficient spirit, will answer for this purpose. Skin, apparently dead, however, has been saved by gently painting it over with nitrate of silver.

Cauterizations may be performed with the nitrate of silver in solution, or the mineral acids, and some think highly of the *acid nitrate of mercury*. Ricord sometimes treats indolent buboes with blisters over the surface, and by filling the ulcerated cavity with powdered cantharides. Solutions of the chlorides of lime and soda may be used; and a painful but successful application has been made of dusting over the surface a small quantity of the bichloride of mercury, and allowing it to remain for several hours.

Frictions of mercurial ointment and of iodine around the parts may be resorted to with advantage, as also creosote, in a proper state of dilution.

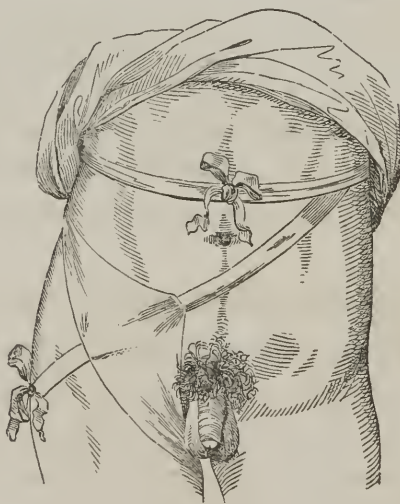
When the granulations are too rapid, they must be kept down with the lunar caustic, and a regular cicatrization may be promoted by passing it lightly over the sur-

face. An unhealthy cicatrix may be destroyed by partial and repeated applications of the Vienna-paste.

Induration following bubo, must be treated with mercury as in chancre. If, however, the whole bubo takes on the form of a scirrhus induration, it may be necessary to remove it by a severe operation, either with the knife, or by removing it layer by layer with repeated applications of a powerful caustic. The use of the Vienna-paste in such cases, though tedious and painful, is preferable to excision.

Should the pustulous openings or sinuses, which sometimes form, resist injections of nitrate of silver, sulphates of copper and zinc, and bichloride of mercury, with the proper compressions and dressings, it may be necessary to open them at their lower point with the lancet or caustic, or even to lay open their entire length. This, if possible, must be avoided; and here, as elsewhere, the disposition to use the knife unnecessarily, must be guarded against.

I shall next proceed to the most important questions connected with the secondary symptoms of syphilis—the effects of mercury and other medicinal agents, and the prophylactic or preventive treatment.



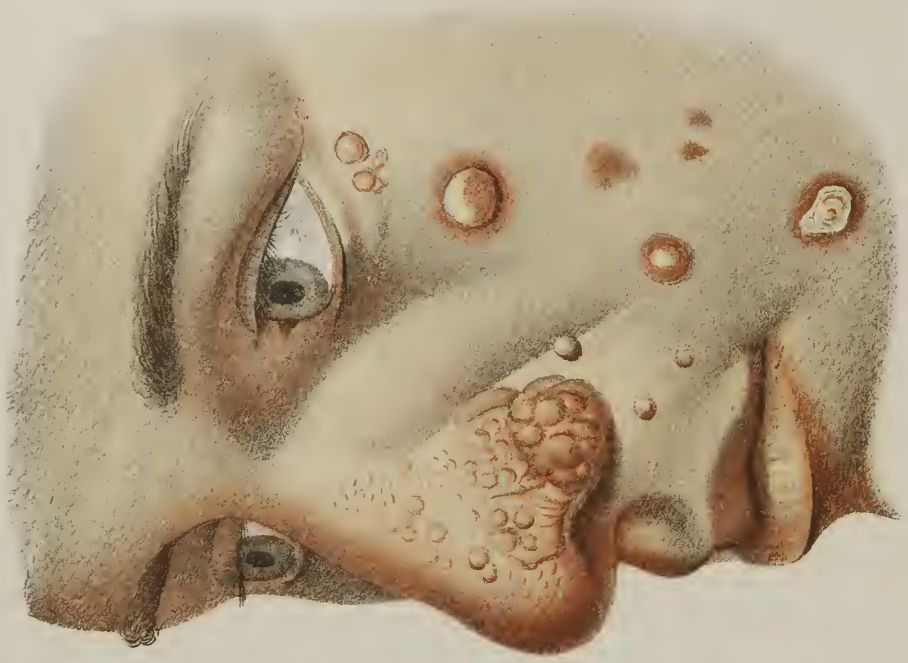
*Inguinal Bandage.*

This cut represents a bandage which is convenient for confining poultices, and even for making moderate compression over the inguinal region.



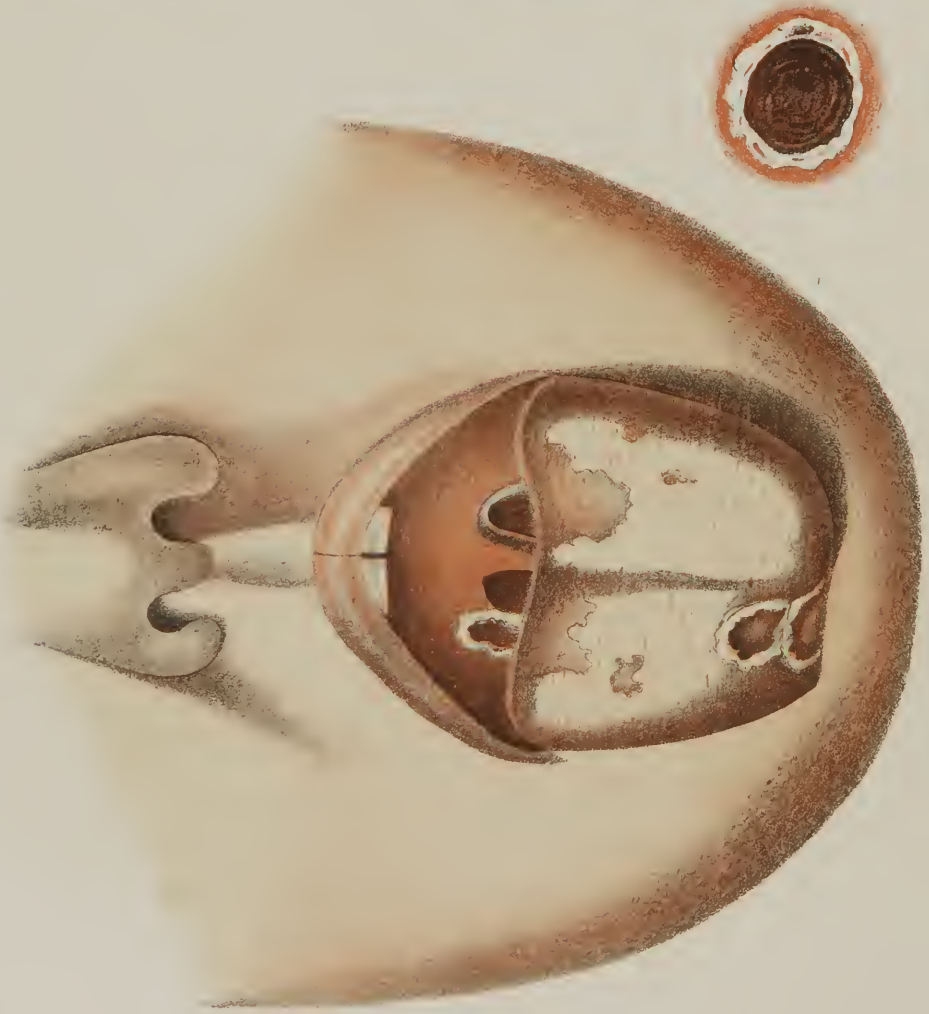


Fig 1



Tertiary.

Fig 2



Secondary.







## PLATE X.

### POLYMORPHOUS TUBERCULOUS SYPHILIS: ACCIDENT OF TRANSITION.

THIS patient, 33 years of age, of a lymphatico-nervous temperament, was born of healthy parents. His mother had had twenty-one boys and one girl. Eleven boys died of cholera. He had had the small-pox in his childhood, but since that time he has enjoyed good health.

In 1832, he was affected with an urethral blenorrhagia and epididymitis, both of which yielded to the use of antiphlogistics, and of ordinary anti-blenorrhagics, without mercurial treatment.

Two months later he applied with a discharge, symptomatic of an *indurated urethral chancre*. The pus furnished by the urethra was inoculated, and the results of the inoculation were positive. This time he was not affected with epididymitis, but there was an indolent tension of the inguinal ganglions. He was placed under the treatment of the proto-iodide of mercury, in the dose of one grain a day; then two, afterwards three. At the end of forty days he left cured.

In 1833, this patient was treated during three months, in an hospital, for a cerebral affection. In the course of the same year he returned for treatment, with ecthymatous syphilis, and some crusts of the scalp, which yielded to a mercurial course.

In 1834, it appeared that he had a relapse of the cutaneous eruption, and subsequently a non-indurated chancre on the prepuce. He had been treated for these accidents.

In 1835, he returned with a blenorrhagia complicated with epididymitis.

In 1838, he was treated anew for ecthymatous syphilis.

In 1839, he was again two or three times under treatment, in hospital, and left without being cured of the relapses of the constitutional accidents, for which he had already submitted to many medications.

Finally, the 6th of December in the same year he returned with the tuberculous syphilis that made the subject of *Fig. 1. (Plate X.)*

Already the patient had experienced cephalic and nocturnal prearticular rheumatic pains, whilst the eruption that we are going to describe developed itself. It first appeared on the pelvis and thoracic members, then the face and the scalp.

Isolated in some points, grouped in others, irised or serpigenous, this eruption presented the following phases: maculæ of a dark red and copper color, with a thickening of the epidermis; miliary granulations; tumors more and more voluminous, and surrounded with a dark red circle—some with integrity of the epidermis, others covered with scales; and,

finally, others, after ulceration and suppuration on the surface, are clothed with crusts stratified and greenish. Notwithstanding, here and there may be observed ecthymatous pustules at the summit of the tubercles. In the points where the suppuration was established, after the fall of the crusts, spontaneous or artificial, we discover an ulceration with a reddish bottom, the sides abrupt and irregularly rounded: where the squamæ existed, the tubercle, after their fall, has preserved its prominence. Different times of arrest, different modes of progression or of termination, have rendered polymorphous the general aspect of this eruption, which has neither been preceded nor accompanied with fever. There has never been any itching, except on the scalp.

Treatment for the accidents of transition to which the patient was subjected.

Bitter ptisan, with fifty grains of iodide of potassium, daily. Every night, a grain pill of the proto-iodide of mercury; then two; then three, and at last four.

After having, in the first place, detached, with the aid of cataplasms, made of fecula of potatoes, the squamæ and the crusts, we covered the diseased parts with the plaster of ammoniac and mercury. Under the influence of this medication, the ulcer promptly cicatrized; the tubercles withered, and underwent a sort of gelatinous ramollissement.

The cicatrices that succeeded to the ulcerations were depressed and irregularly rayed. Where there had been no ulceration was a tissue that was hard, projecting and gofred. In general, these cicatrices resembled those of burns or of scrofulous ulcers; some of them, the color of the lees of wine, continued for a long time vascular.

After remaining this time fifty-five days under treatment, he appeared to be completely cured. Notwithstanding, in 1843, he went into a hospital for osteocopic pains.

The 16th of February, 1844, he returned to us in the following condition: For the last month he had experienced very intense nocturnal osteocopic pains, that deprived him of sleep. Perfectly localized, these pains were seated on different points of the anterior face of the right tibia, on the left cubitus at its upper part, and on the malar bone of the same side; these pains were exasperated by pressure, and the heat of the bed. On the place that they occupied, hard tumors were soon manifested, adherent by their base, without heat or change of color in the skin, which continued moveable over them. The tumors seemed to become less and less painful under pressure, in proportion as their volume augmented.

These new accidents were treated with the ptisan of hops, and a solution of the iodide of potassium, in the dose of one drachm daily. The osseous tumors were covered with plasters of ammoniac and mercury.

Three days of this treatment were sufficient to remove the pains and afford sleep to the patient.

At the end of fifteen days the tumors were already nearly dissipated. The treatment was continued to the 3d of June.

Finally, on the 17th of September, he returned with the following symptoms: The two malar bones and the frontal bone in the supra-orbital regions, were the seat of a very distinct swelling, with some pains that increased under pressure and were exasperated at night.

Independent of these local pains, the patient experienced at night severe cephalalgia, with affected vision of the left eye. Objects seemed to be multiplied and in leaping motion. He was nearly deaf in the right ear.



The treatment consisted in the use of the iodide of potassium and a ptisan of vegetable bitters. On the 27th of November, all the symptoms that we have described had completely disappeared.

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### EXPLANATION OF PLATE X.

*Figure 1.* This figure represents different phases of the evolution of tubercles. On the middle of the cheek, we see maculæ; on the upper lip and the external and lower palpebral region, many small isolated tubercles; on the left side of the nose, confluent tubercles; which, more agglomerated towards the posterior part of the ala, constitute a single very voluminous tubercle.

There may be further observed on the cheek, two pustules of ecthyma, with a tuberculous base, and surrounded with a dark red areola. On the lower pustule already appears the crust.

*Figure 2.* This figure, erroneously denominated on the plate as *secondary*, is a *tertiary* affection. The subject of the complaint was a young girl who had led a very dissipated life. About fifteen months previous to the time the drawing was made, she had had primary symptoms, and had been in various hospitals, but it was unknown whether she had ever taken mercury. The principal features of the disease are well seen. The absence of papillæ on the tongue, where ulcerations had previously existed, excavated ulcers covered with a pulpy secretion, and surrounded with a red areola, bespeak at once the tertiary symptoms; this is made more evident by the occurrence of rupia, which was present on various parts of the body.

## CHAPTER VII.

### SECONDARY SYPHILIS.—GENERAL DESCRIPTION.

ALWAYS danger of secondary symptoms after the primary disease, if mercury be not employed. — Manifest themselves at uncertain times. — Most frequent form of secondary affections. — Tertiary affections. Secondary disease cannot produce chancre. — Secondary and Tertiary affections contagious. — Some reasons for this opinion. — Prognosis of constitutional syphilis.

It is the opinion of Ricord, that when primary affections are cured by the *abortive* treatment, within five days after infection, no constitutional symptoms will follow. Mr. Acton, the English pupil of Ricord, more guarded, places the term at three days. My observation forces me to differ from both ; and while I allow that the chances of constitutional infection are greatly lessened, by a prompt destruction of the chancre by excision, or caustic, or by both combined, I could not feel myself justified in dispensing with such prophylactic treatment as I have already indicated.

My reasons for this opinion are founded in the causes which produce secondary syphilis, or the means by which the system may become contaminated by the syphilitic virus, in that modified form in which it produces the ever-to-be-dreaded train of diseases, that demand the utmost skill and judgment of the surgeon, and which sometimes set all known medical means at defiance.

The secondary syphilitic affections may appear in two weeks after infection by the virus in its primary form ; or they may be delayed for months, or even years, the virus apparently lying dormant in the system, and ready to break out under circumstances, which cannot, with any degree of certainty, be indicated. The laws connected with the constitutional development of syphilitic diseases, are involved in great obscurity. There seem to be persons who are never susceptible of general infection. There are others, who, in some particular state of their constitutions, are not.

The development of secondary affections is thought to be favored by changes of diet, from a mild to an exciting, or from a tonic to a debilitating one, and by similar changes of climate. The alteration from foetal to extra-uterine life, pregnancy, and the period of the cessation of the menses, influence its development. Certain states of the digestive canal, cutaneous diseases, and irritations of the throat and mucous membrane, are supposed also to have this influence.

The most frequent secondary affections are febrile symptoms accompanied by cutaneous eruptions, or syphiloids; ulcerations of the throat, ophthalmia, or syphilitic iritis; affections of the testicles, excrescences of the anus, and falling off of the hair and nails. These symptoms usually take place in the order mentioned, but not always, as the venereal sore throat, with ulcers of that and the neighboring parts, is often the first sign of constitutional infection.

The syphilitic virus, modified to a certain extent, in the secondary affections, appears to become still further modified when another set of symptoms make their appearance, termed *tertiary*. They manifest themselves, usually, a long time after the secondary symptoms; are probably non-contagious, and are supposed to be transmissible only by inheritance, producing constitutional affections, usually termed scrofulous.

The most common of those which are now distinguished as *tertiary* symptoms, are deep seated tubercles of the skin and mucous membranes; pains and tumors of the bones and periosteum; deep-seated tubercles of the cellular tissue, and a great variety of affections connected with all the tissues and organs of the system; obscure in their diagnoses, of difficult treatment, but which may unquestionably be traced to constitutional syphilis. Among these are tubercular affections of the brain, lungs, and heart, and the destruction of the organs of hearing, sight and smell.

It is considered as an established point, that primary syphilis—the proper chancre, can only be produced by the syphilitic virus of a primary chancre or bubo. The experiments of Ricord have apparently settled this matter to the general satisfaction. We may consider it as established that the inoculation of secondary syphilis will not produce chancre, any more than that of uncomplicated gonorrhœa.

Here Ricord, Acton, and, so far as I am acquainted, all modern writers rest, and draw from such premises the conclusion that the subsequent venereal affections are not contagious. This idea it will be my duty to contradict, because I cannot allow myself the space to controvert it. I proceed, therefore, to lay down what my observa-



tion, and the results of my inquiries teach me to believe are the laws by which the transmission of constitutional syphilis is governed.

The constitutional affections, termed *secondary* and *tertiary* symptoms, arise —

First. From the absorption of the primary syphilitic virus into the system, from a chancre, or bubo.

Second. From a direct absorption of the virus, which produces its secondary effect without the appearance of primary symptoms.

Third. From absorption of the virus in the secondary stage.

Fourth. From direct transmission from one or both parents, at the period of conception.

Fifth. By being transmitted, from the fœtus to the mother, by the fœtal circulation.

Sixth. From absorption of the matter by the nurse, from a contaminated infant, or by the infant, from a diseased nurse.

I am satisfied that in any of these ways may secondary syphilis arise; and that though, in many cases, such causes do not produce such effects, it appears certain that they often do, and always may.

The law seems to be that primary symptoms are required to produce primary, but that the virus, both in its primary and secondary stage, may give rise to constitutional affections. At what period the poison loses its virulence so far as to produce no effect from absorption, is a very difficult matter to decide; but I should be very sorry to submit a healthy person to the contamination of the syphilitic virus in any of its stages.

We know that the slightest taint, producing scrofulons and tubercular affections, may be transmitted to offspring to the third and fourth generation.

Absorption is not enough considered as a cause of disease, nor is the absorbing power of the surface of the body sufficiently dwelt upon, in considering the causes or the cure of diseases. I have recommended the introduction of mercury by frictions, and fumigations. A very large quantity of this medicine may thus be taken into the system. There is no reason to suppose that the virus of syphilis is not as subtile, and as freely absorbed, as this ponderous though fluid metal.

A very simple experiment will satisfy any one of the powers of absorption in the skin, in certain cases. Immerse a finger in spirits of turpentine for fifteen minutes, and from half an hour to an hour afterwards, it may be smelt in the urine. The whole crew of a ship, loaded with naval stores, has been affected, the second day out,

with violent strangury; and the crews of vessels having mercury for part of their cargoes, have experienced severe pyalism. In fact there is scarcely any poison which may not be administered so as to produce its specific effect, by absorption.

The smallest quantity of the virus, is sufficient to cause a general infection, where circumstances favor its development. What conceivable quantity can be smaller, than that which poisons the germ of foetal life, by which a man communicates the curse of existence in the very moment and by the very act of giving existence itself to a new being! yet this is sufficient to produce a diseased abortion, or the development of secondary symptoms soon after birth—sufficient even to taint the vital current, which flows back from the rudiment of infant-life to the mother's heart, and involve her, also, in its terrible consequences.

It is because of this liability to absorption, by two bodies in contact, that a young person should never be allowed to sleep with an old one, as the former loses, while the latter gains by the conjunction. This matter was very well understood as long ago as the days of king David, who, as he grew old, and decrepid—as the fires of life were burning low—received a new accession of strength, from sleeping with a young, beautiful, and vigorous maiden; and Abishag was repaid for this drain upon her constitution, by the immortality which this connexion with the great monarch has conferred upon her.

That secondary syphilis is transmissible from father to child, as the result of direct impregnation; from mother to child, by foetal circulation, if not by the previous ovarian infection; from the child to the mother through the circulation, and from the child to the nurse, or vice versa, will scarcely be disputed by any but those, who either entertain the wildest and most absurd theories in regard to venereal diseases, or who deny that there is a specific disease at all.

It is a common case for a man who has been affected with syphilis, and supposes himself cured, to marry a healthy, and unquestionably virtuous wife. She conceives, and at the sixth or seventh month of utero-gestation, miscarries, and is delivered of a dead child, which presents all the appearances of incipient mortification. A second, a third, or fourth time, the same result takes place, and it is fortunate if the medical attendant makes the proper inquiries, and traces these unhappy occurrences to their proper source. If he do so, and put both husband and wife on a proper course of treatment, predicated upon the probable existence of constitutional syphilis in one, and possibly both parties, the next child will likely be born at the proper time, and without any indications of disease.

Abortion, however, is not caused in all cases. Sometimes the child is born alive, and apparently well, but the symptoms develop themselves soon after. This is more apt to be the case, I think, when the child receives the infection at some time after the commencement of its foetal existence.

What a shocking state of things is here disclosed ; yet scarcely a street in our city but might give its examples of the horrors of syphilis !

The effect of the syphilitic virus in the nurse upon the child she suckles, has been known as long as the syphilitic disease has been subject to medical investigation. There is nothing more natural than that the milk of the nurse should carry the disease to the infant ; yet there is reason to suppose that it is either wholly, or in part the result of absorption from the contact of mucous surfaces and the erectile tissues, of which both the lips and tongue of the infant, and the nipples of the nurse are formed. There is no question that the nurse may be diseased by the infant, and direct absorption, in this case, can be the only means of communication. In such accidents, sores break out, both around the mouth of the child, and the nipples of the nurse.

It is in regard to direct infection, by absorption, occurring between one adult person and another, that the greatest difficulty may arise in giving a correct diagnosis ; but even here, my opinion is supported by a mass of observations, the evidence of which seems to me to be incontrovertible. I have known gentlemen, performing the duties of nurses for their sick friends, who had absorbed enough of the virus to produce well marked *tertiary* symptoms, from continued and frequent frictions with the hands, not mercurial of course, but used to alleviate pain from exostosis and osteosis.

The facility with which poisonous matter may be absorbed, the frequent and long-continued contact of mucous and other surfaces must be relied upon, to account for the existence of secondary syphilis in cases where primary symptoms have never made their appearance, and where there is no reason to suspect the probability of any other means of infection.

I have thought it my duty to dwell thus particularly upon this subject, as it is one of the greatest interest to society, and one which, if properly understood, might lead to a salutary reform in morals and legislation.

The prognosis of constitutional syphilis is exceedingly difficult. If left to the natural course of the disease, it will probably terminate in from two to six years ; and there are cases in which any treatment we may pursue does not seem to effect much variation from this result.



Sometimes the ulcerations of the throat descend into the larynx, and the lungs, and the patient dies of a species of consumption; or ulcerations, attacking the arteries of the neck, destroy life by hemorrhage. Other cases terminate, after protracted tortures, in exfoliations of the large bones and the cranium.

Some terminate with diseases of the stomach and intestinal canal, producing diarrhœa and vomiting.

Some persons, to allay the pain of exostosis, take opium; and the saturation of the system with this drug, while it seems to moderate the action of the disease, is liable to produce so much general constitutional disturbance, as to end, finally, in death.

Others die of diseases of the lungs, liver, heart, or intestines.

So universal is the spread of this virus in the system — so various are the means by which it terminates existence.

During the progress of the disease, there is often observed a certain regular periodical increase of its force, followed by an apparent change for the better, which, in due time, generally about every three months, gives place to another relapse. The medicine taken just before this periodical suspension of the action of the disease, or this rally of the powers of the system, are supposed to work wonders. On the other hand, at the period of relapse, medicine and surgeon are both liable to suffer, because in spite of both the patient grows worse.

The treatment of such a disease as we have described, and which is liable to be communicated by so many means, which produces such deplorable results, to individuals, to families, and to whole communities, cannot fail of being a matter of the highest importance. I shall proceed, in the next chapter, to a particular description of the nature and treatment of the secondary class of symptoms.

## PLATE XI.

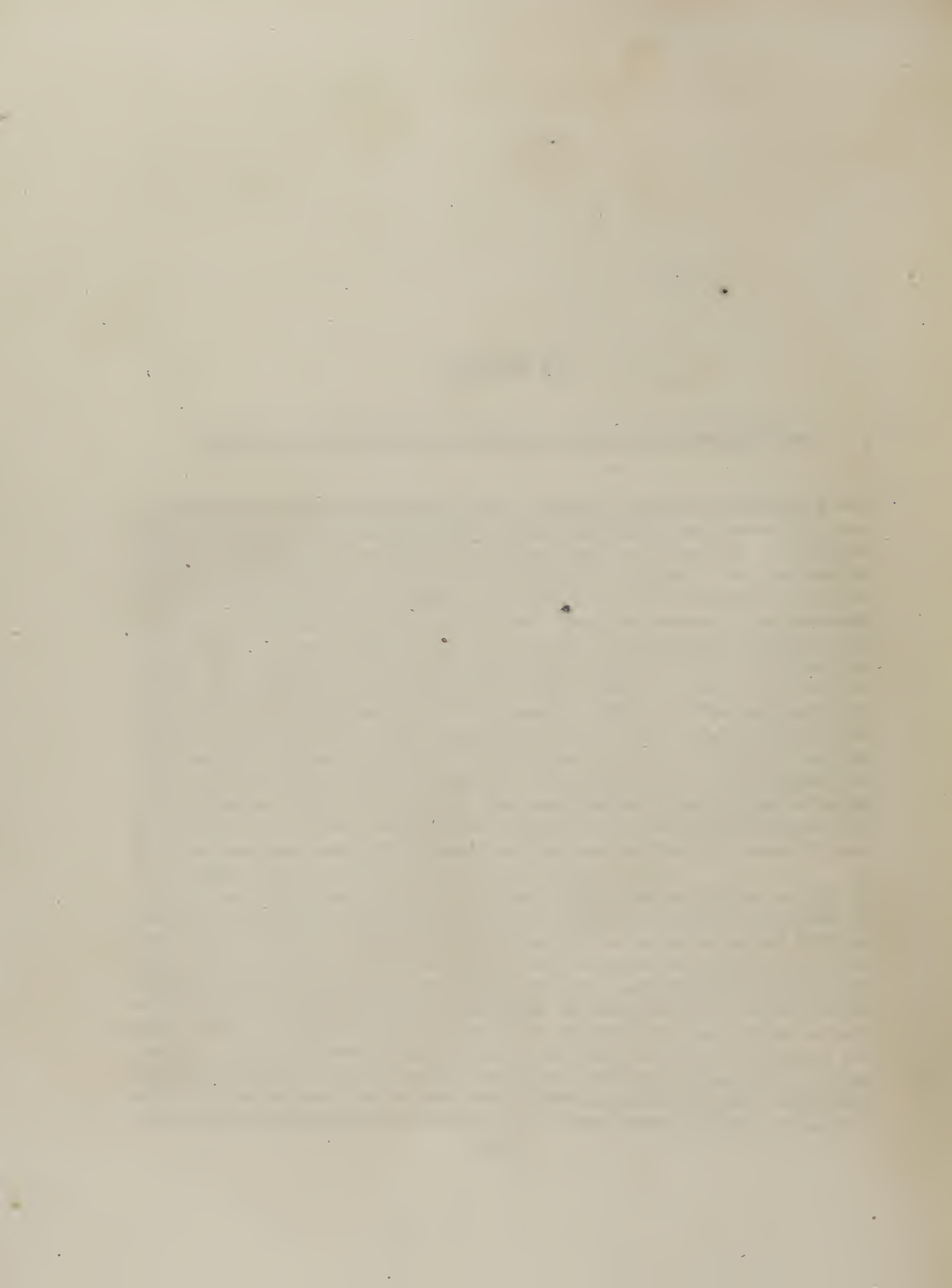
### PUSTULO-CRUSTACEOUS SYPHILIS: SECONDARY SYMPTOMS.

THIS patient, twenty-six years of age, born of healthy parents, vaccinated, of a decidedly lymphatic temperament, light hair, clear blue eyes, feminine face, contracted a chancre at the base of the glans, a year before he came under our observation. The chancre, at first but little painful, was indurated; some lymphatic ganglions of the groin were engorged. The patient contented himself with dressings of mercurial ointment, and put the emplastrum ammoniac. cum hydrarg. on the groins. The plaster excited pain and the swelling increased. It was necessary then to apply leeches and emollient cataplasms, which subdued the inflammation without suppuration of the ganglions. Two months later, the patient experienced stiffness of the neck, many of the posterior cervical ganglions were engorged, and he thought himself affected with measles. The skin of the body and of the limbs was covered with red spots, unaccompanied with fever or itching. A doctor who was consulted, hesitated a little as to the nature of the eruption. After nearly a month, he was treated with the decoction of sarsaparilla and the syrup of Larrey. This treatment was continued for two months. The eruptions had then disappeared, and the patient thought himself cured. But three months had scarcely passed, when he was attacked with nocturnal cephalic pains, with slight dysphagia and dysphonia, and the skin commenced anew to be covered with an eruption, though not on every part at once.

Nearly four months had elapsed after the new eruption appeared, when we saw the patient for the first time. It was confluent on the body and the members, and existed in some points of the face. It consisted of small maculæ of a vinous-red, some of which yet faded under pressure; of vesicles of different sizes, distended with purulent serum, and surrounded with a deep red areola, and others, more advanced, that formed already, veritable pustules of different degrees of development. In proportion as the pustules became more voluminous, the pus concreted to form a crust, slightly convex, and set like a watch-glass in a circle of epidermis elevated by pus of new formation and still liquid, and surrounded by an inflammatory red areola, the epidermis of which, also, comes to be in the end, elevated by suppuration, when the circle formed immediately before, is dried. In this manner are produced, successively, new disks, and the crusts increase thus from the centre to











the circumference. Beneath these crusts are rounded superficial ulcerations, having a base marbled with gray and red.

In the points where the eruption was very confluent, the ulcerations were transbordered, and lost, thus, the regularity of their form; in other points they had cut through the whole depth of the skin, and presented edges thickened, abrupt, and turned a little backward.

From the simple maculæ, up to the strongest development, we had a series of forms, which, taken apart, constituted so many varieties of eruption, and merited different titles. In the parts intermediate to the eruption, the skin was pale and a little earthy.

There existed a slight bruit-de-souffle of the heart and carotids. At night there was a little fever.

The patient was placed under the use of the decoction of dulcamara and syrup of gentian. He took at first, daily, eight pills of Vallet, and one grain of the proto-iodide of mercury; then, after eight days, two grains of the proto-iodide of mercury and twelve pills of Vallet. The crusts were detached with the aid of cataplasms made of potato-starch; the ulcerations were dressed with the following ointment:

R. Hydrarg. Ammoniat. partes ij.  
Unguent. Sulphur. partes xxx. M.

We directed for him two baths of bran-water each week, and a strengthening tonic.

After about two months of this treatment, the eruption was cured, but, it was thought advisable to continue it for two months longer.

## EXPLANATION OF PLATE XI.

On the back and arms is an eruption of different degrees of development: maculæ, vesiculæ, vesico-pustulæ, and pustulo-crustaceæ.

We see most perfectly, on the arm, the manner in which the eruption progresses from the centre to the circumference. The crusts are surrounded by a circle of epidermis that the pus has raised. This circle is itself surrounded by a red areola, the epidermis of which is also elevated.

Behind and below the arm-pit, is a group of superficial ulcerations, uncovered by the falling off of the crusts.

At the bottom of the cheek, near the angle of the lower jaw, is a deep ulceration with projecting sides, and slightly turned back.



## CHAPTER VIII.

### SECONDARY SYPHILIS.—GENERAL PRINCIPLES OF TREATMENT.

SPONTANEOUS cures.—Anti-mercurial treatment.—Effects of climate, clothing, diet, bleeding.—Necessity of attending to the digestive organs.—Woody decoctions.—Quinine.—Iron.—Iodine.—Mercury.—Preparations of gold and silver.—The experience of three centuries is in favor of mercury. The general rules for administering it: may be administered by friction, fumigation, and by the mouth. The different preparations: the iodide, the proto-chloride, and bichloride, the cyanuret and the deuto-phosphate of mercury, most usually employed; the calcined mercury.—The iodide of potassium.

THERE may be, and probably are, persons who are not susceptible of the constitutional infection, or secondary symptoms of this disease. Or, it may be, that persons who are susceptible at some times, are not so at others. The particular state of the system, favorable or unfavorable to its development, is not known. Were that matter understood, and the means of producing the last named condition also known, the disease would be robbed of half its terrors.

In a certain proportion of cases, very small indeed, the consecutive affections may also terminate, so far as we can judge, by a spontaneous cure; whether because some constitutions have a peculiar power of throwing off the syphilitic virus, or whether they contain some properties which neutralize it, we cannot know. Accidental perspiration, changes of climate and mode of living, the conclusion of other diseases, have been considered the causes of such seemingly natural recoveries; but there is not enough known in regard to those causes, nor enough certainty attending them, to render them at all to be relied on.

I may state at once, that I have no-kind of faith in what is termed the simple, or the anti-mercurial, or non-specific treatment of constitutional syphilis; at the same

time I would not underrate the importance of a proper general treatment in connection with that which is more specific. I shall, therefore, make some remarks upon what has been termed the simple treatment.

Climate has always an influence upon syphilitic patients. Symptoms, mild in Spain, have become greatly aggravated by the patient going from thence to England. A removal from a cold and wet situation to a warm and dry one, has often favored the treatment, and evidently tended to the cure of the most desperate cases.

Quiet, a recumbent position, and a genial warmth, are particularly insisted on by those who rely upon a simple treatment; and, if favorable to a spontaneous cure, they may well be considered as proper whenever they can be attended to.

Sufficient and good clothing, so as to maintain the warmth of the body, and the constant and healthy action of the skin, cannot but be a matter of great importance in the treatment of a disease which we have so much reason to suppose tends to the surface, and may, in some cases, be thrown off entirely by the means of the perspiratory function.

Diet is a matter of so much importance, that there have been those who have undertaken to treat syphilis by attention to this alone. The food, in kind and quantity, must be regulated according to the constitution and temperament of the patient. To prescribe a low diet in all cases, will be in many cases to produce inevitable mischief. An English physician, applied to by a poor patient, prescribed a great-coat, warm blankets, better food, and more of it. Persons of a full habit, inclined to inflammatory action, must be put upon a low, mild, but still sufficiently nourishing diet; while in weak, debilitated individuals, with a scrofulous constitution, a spare diet aggravates the disease, while a generous tonic diet is an absolutely requisite part of a successful treatment. The diet must be adapted to the greater or less degree of inflammatory character of the disease, and also to the condition and habits of the patient. People who have been accustomed to low living, will generally be benefited by better; while those who have been accustomed to high living, cannot be indiscriminately reduced even to the diet upon which the former may be put with advantage. With these general principles, the kind and quantity of food must be left to the judgment of the physician, whose business it is to see that all the functions of life are performed in a manner most conducive to health, and most favorable to the specific treatment of the disease.

Whenever symptoms of super-excitation, and especially of inflammation, exist,

antiphlogistic measures ought to be resorted to, and that to the extent indicated by the nature and situation of the inflammation. In a somewhat extensive practice in this class of diseases, I have never been obliged to resort to general bleedings, yet I do by no means say that it is never necessary, and that it may not sometimes be absolutely required. But in all cases where they can be used, I prefer other antiphlogistic measures, and I would particularly recommend the administration of the tartarized antimony in nauseating doses. The local application of leeches in certain cases of violent and circumscribed inflammation, is not to be neglected.

Baths are much used in the treatment of every class of venereal diseases. The hip-bath is convenient for the local bathing of the parts more generally diseased. The baths ought to be tepid or warm, and neither of too high or low a temperature. Baths medicated with gelatin, starch, bran, decoctions of poppy, henbane, and belladonna, are used in the medical hospitals of Paris. An attention to the perfect cleanliness, and the free and healthy action of the skin, can never be safely neglected, and the efficacy of baths to produce this condition need not be dwelt upon. The influence of baths as sedatives, without, or with the anodyne decoctions above noticed, is too well known to every physician to require to be more particularly enforced.

The functions of the digestive canal, as well as the skin, should be performed with regularity. In the ulcerous forms of syphilis, and those in which the deep seated tissues are attacked, this is a matter of so much importance, that the condition of the bowels seems to have a controlling influence over the progress of the disease.

The use of sudorifics, especially some of the woody decoctions, has become to such an extent a part of the popular belief, that the surgeon may not be quite safe in rejecting them. Sarsaparilla is even supposed by many to possess specific powers in the cure of syphilis; and this opinion has been encouraged by those who have made decoctions or syrups of this far-famed root, vehicles of mercurial preparations. But though sarsaparilla is not the certain specific which many suppose, it has great power, and is not to be neglected. The ptisan of Feltz, is the one most approved in the French hospitals. Guaiacum appears to have more influence in diseases of the osseous system.

Quinine, the bitter vegetable extracts, iron, particularly the proto-iodide of iron, and iodine locally or internally, in combination with mercury or otherwise, are to be



administered according as tonics or medicines for scrofula may be required.

Preparations of gold and silver, have been highly recommended in preference to mercury for the cure of syphilis. My impression in regard to them is, that they are never to be relied upon, and never used in preference to mercury, and are only to be brought into requisition when the latter, in all its forms and combinations, fails.

The experience of three centuries points to mercury as the great medicine for syphilitic diseases ; the only one which deserves the name of a specific, and even this is not an absolute one. Mr. Hunter, assuming the theory of irritations, supposed that mercury cured the syphilitic irritation, by causing another, and a greater one. If a man really must have a theory, this may be as good as another. Other surgeons insisted that it was only by the drain of a profuse ptyalism that the virus was taken out of the system ; and mercury was poured into the system without stint, until that effect was produced. Now, we not only cure syphilis without the least symptom of salivation—but take all precautions against producing it, and cease the administration of mercury, and try to check the ptyalism as soon as it appears. Others attribute the effects of mercury to its tendency to the surface, and its power of carrying other matters along with it ; and others believe that it chemically or specifically neutralizes the syphilitic virus.

My own opinions are in favor of the last theory, and they are founded chiefly upon the fact, that mercury is so efficacious as a preventive medicine against secondary symptoms. I go no farther. Quackery consists in pretending to more knowledge and ability than we possess. I know that mercury produces certain effects—how, by what means, or in virtue of what laws, I confess I do not know ; and any view that I might advance upon such a subject would be of little value.

It is impossible to lay down accurate rules for the administration of mercury, either in regard to its preparations or doses. In respect to the latter, only one general rule can be given. We must begin with small doses, and increase them gradually, up to the point where we perceive a favorable action, while at the first appearance of soreness of the mouth which precedes ptyalism, or irritation of the stomach and intestines, (when these and other diseased actions arise from the mercury,) we must stop it for a time : commence again with diminished doses, change to other preparations or modes of administration or combinations, especially with opium, which, next to mercury, may be considered the most valuable of our medicines in this disease—so valuable that many have supposed it to have specific virtues.



Among the indications that mercury is not agreeing with the system, in a particular form of administration, is an increased inflammation, sensibility, or irritation of the local symptoms. We cannot too carefully watch the appearance of such symptoms, nor regulate our treatment too closely by such appearances, because the continuance of mercury under such circumstances, is likely to lead to some destructive action, which may produce the most deplorable results.

The state of the general system should also be closely watched, as well as the condition of the local affection. The less sensible the effect that is produced on the general system, either of febrile irritation or tendency to salivation, the better is the action of mercury on the disease; the better the patient "tolerates mercury," the more certain are its effects; and, where mercury cannot be taken or borne, as it cannot by some patients, if the case is not desperate, we have, at all events, lost the sheet anchor of successful treatment.

We must avail ourselves of all the information to be obtained of the patient in regard to the most efficient mode of treating his case. Thus we may inquire whether he has ever had the disease before, and of the method of administration and effect of mercury in syphilitic or other diseases. The information thus obtained may guide us safely, without the necessity of experimenting as cautiously as might otherwise be required.

Mercury is administered by frictions, by fumigations, and by internal administration. M. Ricord, for whose authority I entertain a high respect, prefers the internal administration to all others, whenever the condition of the stomach and intestines will admit; but I have said already, that, especially in the early stages of the disease, I never neglect mercurial frictions. It appears to me that the mercury in this form of administration enters the system more readily and certainly than by any other method, and that its effects can be more easily controlled.

The mercurial ointment should be gently rubbed into the inside of the thighs, and, if necessary, of the arms, without occasioning too much irritation, and the parts should be covered by warm under garments, worn as long as the frictions are continued, or, at least, during the night when the frictions are made.

Fumigations are useful in obstinate affections of the skin, throat, and nasal fossæ. The papular and pustular eruptions, and chronic ulcerations of the mouth and surrounding parts, seldom resist this powerful mode of administration. The necessary apparatus is very simple. The patient, confined to his room for five or six days,

which is kept warmed to 70 degrees Fahrenheit, and prepared by a course of low diet, aperients, and a compound decoction of sarsaparilla, is seated on a stool, naked, in a chamber heated to 80° Fahrenheit. A robe of oiled, or waxed cloth, coming closely around the patient's neck, is to be placed over him, and under this, upon the floor, a spirit lamp is placed, over which a china plate, containing cinnebar, is to be arranged. The apparatus is now complete. The quantity of cinnebar necessary for each fumigation is from twenty grains to a drachm. One application a day is sufficient, and they will generally produce their full effect in from eighteen to twenty days. If salivation, or other unfavorable symptoms ensue, we must of course modify or discontinue the process. When the treatment is terminated, the patient is to take a bath and change his linen.

When necessary, the fumigation may be conveyed by means of a glass funnel of the requisite shape, into the bed of the patient. In any case it is usually employed in the evening, continued for about fifteen minutes, at the end of which time the patient composes himself for the night.

It is important that I should here mention some of the most approved forms or preparations of mercury, and their mode of administration, not so much because one preparation is better than another, as because where one will not produce the effect wished, another may; and in this point of view, a variety is desirable, if in no other. There is no doubt, however, that one or the other of the combinations of mercury with iodine, possesses peculiar virtues.

“The preparation,” says Ricord, “to which I now give the preference, not only in the treatment of the secondary symptoms, but also of the primary, is the proto-iodide of mercury, commencing with a single grain, in the form of pills. In some patients the daily dose has been increased to six grains, and the total quantity has amounted to two hundred grains, by its being continued till the complete disappearance of the symptoms.”

The proto-iodide of mercury is employed in primary syphilitic sores in strumous habits, but is chiefly resorted to in chronic affections. This preparation is highly approved by Cullerier, Biett, and others. M. Cullerier gives it in doses of from one-sixteenth of a grain to a grain, in the form of a pill, always in combination with opium. The pills of his formula contain half a grain of the proto-iodide of mercury, one-sixth of a grain of opium, and one grain of gum-guaiacum. In the form of ointment, this preparation may be used in frictions, both for general treatment and for a local ap-

plication to indolent ulcers and buboes. The patient during its exhibition, must be submitted to a strict antiphlogistic regimen.

The proto-chloride of mercury, or chloride of mercury of the London Pharmacopæia, is extensively used in syphilis, especially in the chronic inflammations and ulcerations of the testicle. In tubercles of the labia, and in various forms of creeping ulcers, and the ulcers of the mouth and nose, it is given in the form of pills, in combination with opium, or extract of conium. Ricord gives one scruple of the chloride of mercury, and two scruples each of conium in powder and castile soap, for twenty-four pills. The forms of other hospitals vary a little; the pills at Val-de-Grace contain one grain each of the mercurial chloride and conium, and they are increased from one or two a day, up to twenty and even thirty, in twenty-four hours. One of the best combinations of this preparation of mercury, is what is commonly known as Plummer's pill, (the *pilulæ hydrag. chlorid. comp.* of the London Pharmacopæia,) and in the secondary, and more especially the tertiary disease, there is scarcely any remedy superior to it.

In Germany and Prussia the bichloride is chiefly relied upon. It is given in pills containing one-fourth of a grain of the bichloride of mercury, to half a grain of opium. One a day for ten days, when, if necessary, the dose is increased to half a grain of the salt daily; but others think that smaller doses are to be preferred, and give one-sixth of a grain in a dose, not exceeding three times a day. The usual German method is to give pills made of twelve grains of bichloride of mercury, and enough liquorice to divide into two hundred and thirty-eight pills. Half an hour after dinner four of them are given; the day but one after, six; and so on increasing the dose two pills every other day, with one day's interval, till the patient takes thirty pills daily, containing a grain and a half of the salt.

The cyanuret of mercury is by many, and for several reasons, preferred to the bichloride. It is more soluble, less liable to decomposition, acts more quickly, and is not so likely to cause pain and derangement of the bowels. It may be given internally, either in pills or solution, and externally in the form of a pomade, or ointment. in which shape it is a very efficacious application to various forms of herpetic and squamous affections, allaying their violent itching and irritation. It is also employed as a dressing for indolent ulcers and tubercles, and as a gargle in ulcerations of the throat. It may be given in combination with opium, in pills, beginning with a sixteenth of a grain a day, and gradually increasing it. A solution may be made con-



taining from two to three grains to the pound of water, given in half-ounce doses, sweetened with sugar.

In Italy the favorite preparation is the deuto-phosphate of mercury, given in the same forms and doses as the bichloride. As an ointment applied to indolent buboes and exostoses, it is by many preferred to all other preparations.

Should the more common mercurial preparations fail, any of these may be resorted to, or *vice versa*. In one case of secondary syphilis, which had defied the treatment of our best surgeons, I sent to London for the calcined mercury, *per se*, and with that almost forgotten preparation, obsolete in the books, and not to be found at our druggists', I was fortunate enough to effect a cure. I can give no reason why this antiquated mercurial should have proved successful, when all other remedies had failed, except that it was different from them, and happened to be the form best suited to the condition of the patient and of the disease.

Finally, the iodide of potassium, which of late years has been resorted to with the most singular advantage, is a remedy which I very commonly employ, in both the secondary and tertiary forms of syphilis. There is no one medicine, I am persuaded, from the most extensive experience with it, that can be compared to it in value. But, like all other powerful remedies, it has got to be a kind of panacea with many persons, and is indiscriminately administered, often to the manifest injury of the patient.



## PLATE XII.

### SYPHILITIC CRUSTACEA. (VARIETY OF CONVEX RUPIA.)

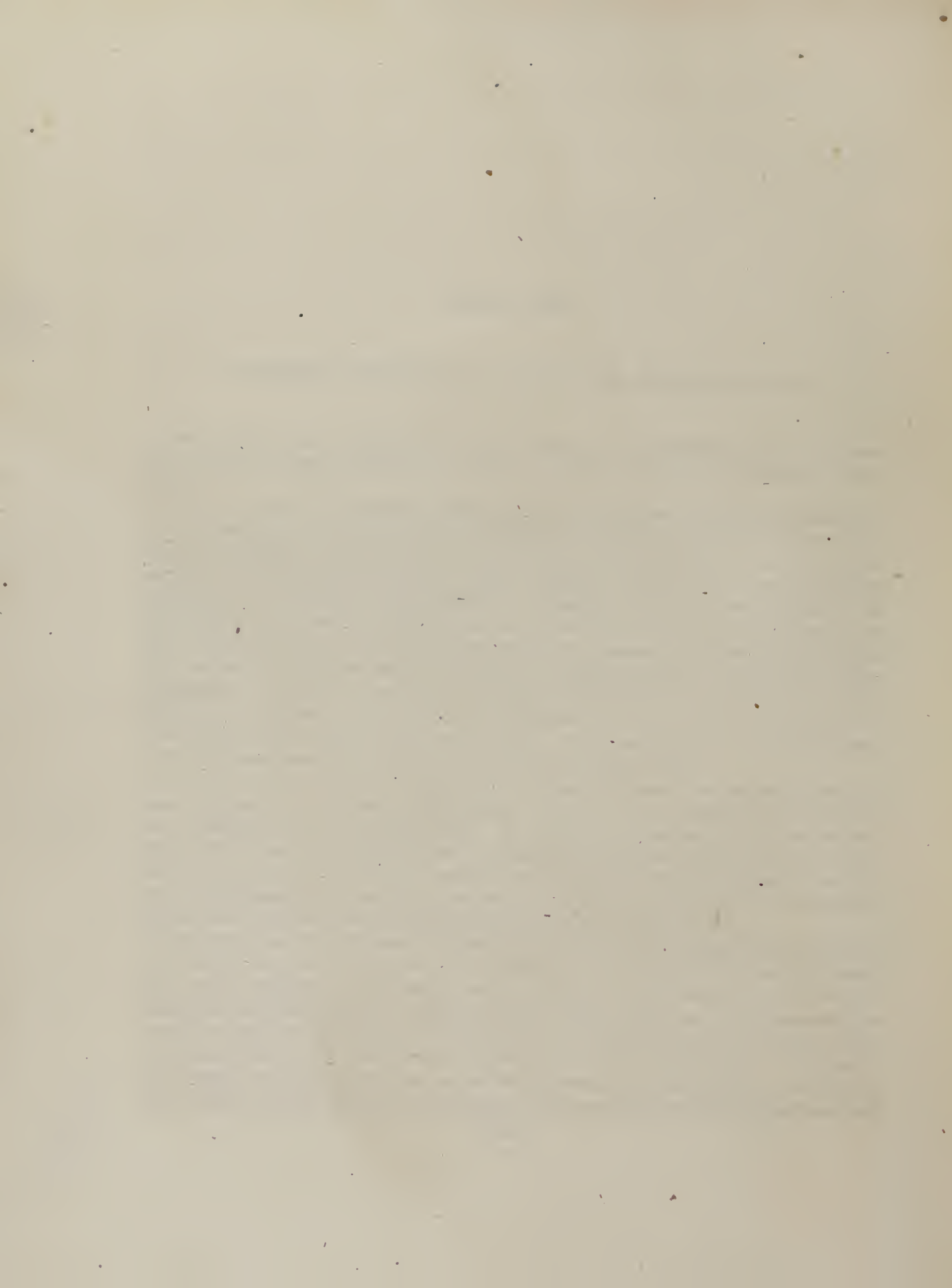
THIS patient, a native of Ireland, 31 years of age, presented himself on the 23d of June. He was born of healthy parents, had a strong constitution, but had the lymphatic temperament.

Nine years since he contracted a blenorrhagia, and a chancre on the glans, which were soon accompanied with two buboes, that took the acute form, suppurated, and were not cured for more than a month after they had been opened with the aid of a bistoury. The chancre did not cicatrize for about four months. During the whole time that these accidents continued, he was treated energetically with mercurials, causing a strong salivation. No other symptom supervened, and his health was perfect during the four following years. At that epoch, the patient, who had always continued to see women, discovered a new engorgement in one of the inguinal regions, without any preceding disease. The progress of that engorgement was slow, it had little inflammation, little pain; notwithstanding, its size became very *considerable*, and terminated by *suppuration*. Seven weeks elapsed, after the spontaneous opening, before the cure took place. That time there was no specific treatment, and during three years afterwards, there was no other accident.

Two years since, a few days after coition with a public woman, the patient perceived a small excoriation in the groove of the glans. The excoriation suppurated but little, and was accompanied with very slight itching. It soon took a rounded form; its bottom was gray, and its base, which little by little attained an extent equal to that of the nail of the little finger, became projecting and *excessively hard*. But fifteen days, at the most, had run, since the beginning of this *indolent* ulceration, and already many ganglions of both inguinal regions were tumified, *without much development*, and without being painful.

The patient was then subjected to a mercurial treatment, quite energetic, and which was continued for four months. He took, at the same time, bitter drinks, and confined himself to a severe regimen. The chancre slowly cicatrized, and the inguinal engorgements disappeared *without suppuration*. During the third month after, and notwithstanding the mercurial treatment, vague pains supervened in the vicinity of the great articulations, with a nocturnal pain over the orbit, which disappeared in about a month's time. The patient was thought to be cured, and the use of the mercurials was suspended; nevertheless, eight months later, ulcerations were developed on the amygdalæ, and the posterior cervical





*Fig. 2*



*Fig. 1.*

*Fig. 3.*





ganglions became tumified; there was pain in the movements of the neck. He recurred again to mercurials, and continued to employ them for nearly three months.

The cure seemed radical, but, at the end of six months, the patient saw forming on his shins, small points of a dark red color, without pain and without itching. *Small suppurating pimples* succeeded to these spots, which gradually increased, becoming more and more purulent, and ending by drying and forming a crust. This crust, at first but small, slowly enlarged by its circumference. In those that were still increasing, an areola of vinous-red surrounded and preceded the new zone of epidermis, raised up by the most recent suppuration, and which, in its turn drying, spread out more and more the base of the crust. While this process was going forward, a pus escaped that was adhesive, reddish, sanguinolent, and ichorous. In the points where the progress of the eruption was arrested, the crusts, which had been of a yellowish green, and then a greenish brown, became nearly black; they were hard, horny, giving a dry sound on percussion, and no longer presented an areola. A slight circle of epidermic desquamation terminated their boundary. The eruption was limited to the inferior members: four on the right limb and one only on the left. On the right we could see the points of elementary departure, which consisted merely in a *vesicular* elevation of the epidermis with a dark red areola of great extent. This form of eruption, that commences nearly always by a small *vesicle*, and not by a *bullæ*, may become arrested at that period which connects it often with *ecthyma*, before arriving at those proportions to which the epithet of *rupia* ought to be applied.

Be it as it may, after the fall of the crusts, determined by the application of cataplasms, we found, under that which occupied the internal side of the region under the knee, an irregularly ulcerated surface, and which, by its disposition, showed that it had been the base of a group of eruptions. A part of the surface was already cicatrized. In some points, the united ulcerations, irregularly surrounded with abrupt margins a little evated, had a greenish-gray bottom covered with a pultaceous matter, analogous to that which is seen in primitive accidents in the period of progress. The crustaceous shell of the anterior part of the leg, covered a surface of a vermilion-red, formed by granulations of a healthy nature, considerably elevated above the level of the surrounding parts. In other points the crusts covered only cicatrices of a brown color, and still vascular and arborescent.

The eruption, that had lasted six months, was not the seat of any itching, and it was the seat of pain only during the period of advance, or when it was stationary.

Six weeks before coming for advice, and a few days after a last sexual connexion, an ulceration was developed on the reflection of the semi-mucous membrane of the prepuce, and had soon invaded a part of the base of the gland. This ulceration assumed the progress of pultaceous phagedena.

The treatment consisted in the use of a decoction of quassia, sweetened with the syrup of gentian. For the first eight days, the patient took a pill containing one grain of the proto-iodide of mercury and two-thirds of a grain of the iodide of potassium. Eight days later two pills, then three, and afterwards four, at equal intervals. The iodide of potassium was maintained at three grains during the whole time of treatment.

After having detached the crusts, the ulcerations were all dressed with a solution of the tincture of iodine, (two parts of the tincture of iodine to one hundred of distilled water, with a sufficient quantity of iodide of potassium to make the solution.)

After six weeks of treatment, the ulceration of the penis was cured, but it was about four months before the legs seemed to be perfectly cicatrized.

Six months later, the cicatrices were yet a little bluish at their centre, and white at their circumference, rayed and figured in some points: they resembled the cicatrices of burns.

The observation that we come now to make, is interesting in more than a single connexion, and constitutes one of those cases, which, alone, demonstrates the whole of our doctrine. The patient had, in the first instance, a blenorrhagia, and a *chancre with buboes*. He perceived *no induration* in the seat of the chancre; the buboes *suppurated*; no constitutional accident supervened: it is true, a mercurial treatment was adopted, but we will see, later, if it is to that that we must attribute the absence of all consecutive symptoms.

Long after that first disease, and following, in a few days, a suspicious sexual connexion, he discovered a bubo,—a bubo *without any other antecedent*, and that the favorers of the doctrine of *bubons d'emblée* regard as a new primitive accident. This ganglionic engorgement, the progress of which was, evidently, the same as that of sub-acute strumous affections, or of sympathetic or idiopathic buboes, *suppurated*. No specific treatment was adopted; no accident supervened. But, at length, a new ulceration of the genital organs followed a new coition; it was *excessively indurated*, according to the expression of the patient; the ganglionic engorgements accompanying it were small, remained indolent, and *never suppurated*. A new mercurial treatment was resorted to, which, like the first, was continued for four months, but did not prevent the successive evolution of constitutional symptoms, because it was insufficient. After a last connexion, a new ulceration manifested itself on the penis, when, the syphilitic diathesis being already established, it affected the *phagedenic* form, the patient having lost his *aptitude to the indurated chancre*. When the diagnosis has been rigorous, we can affirm that no constitutional accidents will supervene upon a *non-indurated* chancre with a *suppurated bubo*. The diathesis is not established, and, consequently, the mercurial treatment to which we render the honors of a cure, not only is useless, but it may be hurtful, altering the constitution and tending to render ulterior accidents more grave.

We may rest assured that a bubo which is not derived from an *indurated chancre*, will not be followed with the phenomena of general infection. But we can assert that when a chancre presents the specific *induration*, and the engorgements of the neighboring ganglions remain indolent and do not suppurate, the diathesis is established, and the manifestations of constitutional accidents, with their successive forms, will happen within a given time.

Finally, when the diathesis is established, it appears to be no more apt to *double or to treble itself* than other diathesis; if the patient contracts new primitive accidents, they remain local; and, as a proof of this disposition, they never become indurated; but, on the contrary, if the constitution has been long under the influence of the syphilitic diathesis, and has not undergone a methodic treatment; if a bad medication, and, above all, a mercurial medication, has altered the constitution, the new primitive accidents have a great tendency to take a grave form, and often one of the varieties of phagedena.

## EXPLANATION OF PLATE XII.

*Figure 1.* Crustaceous eruption : *Convex Rupia* : crusts covering all the surface that produced them. That on the anterior part of the leg, resulting from a solitary eruption, is quite regularly rounded ; the others constituted by groups of eruptions confounded together, have not so regular a form. The crusts on the internal and posterior face of the calf, which is the furthest advanced towards a cure, is also the dryest, the blackest, and no longer presents any traces of an areola.

On the anterior and internal part of the leg, is a vesicle, of the kind with which the rest of the eruption commenced.

*Figure 2.* Ulcerations still in the period of progress in some points of the group constituting the eruption, and cicatrized in other points.

*Figure 3.* Granulating ulcerations, at the period of reparation.



## CHAPTER IX.

### SECONDARY SYMPTOMS.—CUTANEOUS ERUPTIONS.

THE usual premonitory symptoms.—*Exanthemata*: the treatment.—*Squamæ*: their treatment.—*Vesiculæ*: their treatment.—*Pustulæ*—two species, the psudaceous, and the phlyzaceous: the treatment.—*Papulæ*: treatment.—*Tuberculæ*, several varieties: treatment.—*Ulcerations*, *Vegetations*, or excrescences: treatment.—*Condylomata*, or *Mucous Tubercles*: treatment.

THE secondary symptoms of syphilis sometimes appear in fourteen days after infection, more commonly in five or six weeks, but may be delayed for an indefinite period, and finally may not be developed at all.

They are usually preceded by languor, flying pains, disorder of the general system, and unrefreshing sleep.

In persons in whom the sanguine temperament predominates, and febrile symptoms are most apparent, cutaneous eruptions are generally the first symptoms of constitutional infection.

The first form of these syphiloids, or secondary cutaneous diseases, is that of the *exanthemata*, which make their appearance in irregular patches of a shining red, bronze, or coppery color, according to the degree or the subsidence of inflammation. These patches, rarely confluent, and about an inch in diameter, are scattered over the whole surface of the body, but especially on the face, neck, forehead, mammæ, or the genitals. These exanthemata are often complicated with other symptoms of constitutional syphilis, particularly iritis, and are succeeded by the squamous and tuberculous eruptions.

The general mercurial treatment of constitutional syphilis is never to be delayed a moment after the appearance of its first manifestations. No state of the general health or condition can be considered a contra-indication. Pregnancy, so far from being such, is an additional inducement.

When there is much fever, antiphlogistic treatment, and warm and gelatinous baths in case of inflammation should be resorted to. If the eruption prove chronic and obstinate, the cyanuret of mercury, or the bichloride with sudorifics may be employed.

The favorite ptisan of Feltz is much used by Ricord for this state of the disease. It consists of a decoction of sarsaparilla, gum-acacia, and the sulphuret of antimony. The syrup of Larrey is preferred by others.

Under this treatment, the eruptions may either suddenly disappear in its first stage, or by gradual resolution, or suppuration, or by conversion into indurated tubercles.

The *syphilitic squamæ* are hard, dull, opaque patches of thickened epidermis, varying from the size of a dime to a half-dollar, and raised above the surrounding skin by a chronic thickening of the dermis or rete-mucosum. The centres of these patches are often depressed, and they are of a dark brown or black color, which is a long time in disappearing. These *squamæ* have a tendency to excoriate and slightly ulcerate in the centre, which become covered by a small, dry, thick crust, and their surfaces are also traversed by fissures without ulceration. The dermis of the centre retains its depression after the cure. The *squamæ* appear in connection with inflammations and ulcerations of the fauces and palate, with iritis, and the pains and diseases of the periosteum and bones.

The particular treatment of these affections is confined to the administration of sudorifics, the decoctions already mentioned, with the carbonate of ammonia, the vapor bath, and mercurial fumigations. When mercurials fail, they have yielded to the preparations of arsenic, or the iodide of potassium. There is scarcely any form of the cutaneous syphilitic diseases in which the fumigations with cinnebar may not be used to advantage; and probably the best way of using them is by mixing the cinnebar with wax, and moulding it into a candle. The candle thus made, and burned under a glass funnel, the tube of which, carrying the vapor under the bed-clothes, ensures the benefit of the fumigation.

The syphilitic *vesiculæ* are very rare. The vesicles are situated upon an inflamed base, of a deep coppery red. They are generally accompanied by fever, inflammation of the fauces, &c., and are succeeded by the pustular eruption.

Antiphlogistic treatment, with the warm bath and sudorifics, is particularly indicated.

The syphilitic *pustulæ* are characterized by an elevation of the epidermis, raised by a collection of pus, and are commonly placed upon a tuberculous base. Ulcera-

ting, they form characteristic syphilitic sores, with hard elevated edges, foul surface and sanious pus. They are irregular in their appearance, and may remain stationary until met by proper treatment. After a time their hard, raised bases assume a dark brown color, or coppery red. Though belonging to the secondary symptoms, pustules are sometimes developed upon the skin of the penis, pubes, scrotum, and labia, during the primary stage. In this case they have a red, indurated base, and soon change into ulcerations.

There are generally reckoned two distinct groups of *pustulæ*, the miliary or the *psudraceous*, and the *phlyzaceous*. The former are small, numerous, arranged in clusters, and disposed to become confluent. Each pustule is an opaque white point, placed upon a hard, deep red or copper colored base, and when opened presents a small grayish excavation, which ulcerates slowly, leaving a depressed cicatrix, brown, or thinly encrusted. The latter division are formed separately and distinctly upon the skin, with hard, thick, conical bases, surrounded by a deep red, brown, or coppery areola. Ulcerating, they form sores, having thick, elevated, and excavated edges, secreting an offensive pus, or becoming covered with thick crusts. They remain stationary or spread, and give rise to red, fungous and painful vegetations. These pustules are often situated over the bones nearest the surface, and after ulcerating, they spread and penetrate the periosteum and the bones,—running now into the tertiary symptoms, which belong to the deep seated tissues. The crusts of these ulcers sometimes cover the face and the greater part of the body, producing a constitutional disturbance which may terminate fatally.

The treatment of the pustular forms of secondary syphilis, must be varied to meet the degree of irritation, and the particular nature which they have assumed. Low diet, the warm bath, anodynes and opiates, must meet antiphlogistic indications. If the disease is chronic, we may use the vapor bath and mercurial fumigations, and at this period we may administer mercury internally—the proto-iodide, the cyanuret, and the syrup of baron Larrey.

But if the patient's health is undermined, and sinking under the irritation of extensive ulcerations, we must abandon specific treatment, and resort to mild tonics, a generous diet, and opiates externally and internally administered. Large and painful pustules or ulcerations may be dressed with the aqueous solution of opium, opium cerate, or a lotion composed of from ten to fifteen drops of hydrocyanic acid to the ounce of water. Chronic or indolent ulcers may be dressed with the oint-



ment of the proto-iodide of mercury. Washes of the solution of the chloride of lime or soda, with dustings of calomel and opium, may be used as in other syphilitic sores, according to the indications, and as the judgment of the surgeon may direct.

In all diseases of this kind, opiates appear to possess an excellent and almost a specific influence. It is certain that many patients will recover by their use alone. The syphilitic *papulæ* are small, hard, solid elevations upon the skin, surrounded by a small inflamed areola, having, frequently, ulcerations at their apices covered with dry incrustations. They are disseminated over the body in groups, or disposed to be confluent. They are of a deep red or copper color, have a tendency to ulcerate, and form hard incrustations, which leave brown, depressed cicatrices in the skin. *Papulæ* are found in connexion with pustules, tubercles, squamæ, iritis, and almost all the symptoms of confirmed syphilis.

When these papular eruptions are situated on the anus, prepuce, or vulva, and neighboring parts, they cause an intolerable itching, which may sometimes be allayed by mercurial ointment, but more frequently by solutions of sugar of lead or nitrate of silver. The skin may be sponged with weak solutions of the bichloride of mercury, while the treatment proceeds for the general disease. In cases of high irritation and fever, antiphlogistic measures must be resorted to.

The syphilitic tuberculæ of the skin, are deep-seated, solid, circumscribed elevations, containing neither lymph nor pus, and are larger and better defined than papulæ. They are isolated or grouped; are of a shining red, livid, or brown color, with a dark red or coppery areola. These tubercles have a tendency to ulcerate and form excavated sores with elevated edges, a foul surface, and offensive pus, which, drying, leave dark or gray scabs. The syphilitic tubercle seems to be the connecting link between the secondary symptoms and the tertiary, attacking the deep seated tissues, and being found in the centre of the brain and in the heart.

There is a species called the flat tubercle, or tuberculous pustule. It is smooth and flat on the surface, appears on the scrotum, labia, the vicinity of the anus or mammæ. They are from a dime to a quarter of a dollar in size, and are not disposed to ulcerate.

The more common tubercle, is scattered over the body slightly or in patches, from the size of a pea to that of a large hazle-nut. They are usually situated on the anterior part of the chest, the abdomen, on the neck, or the insides of the arms.



## PLATE XII., BIS.

### POLYMORPHOUS VEGETATIONS.

THERE was nothing in the health of the family of this patient, that could lead us to infer that the disease that existed in him, could have been inherited from his parents. For his appearance, he was above the middle height, his hair was chesnut, and his skin quite white. He pretended never to have contracted the venereal affection, or, at least, it had never been perceived. In this respect, he was subjected to interrogatories the most complete, and an examination the most minute. During the last ten months, or longer, he had had no sexual intercourse, and did not remember that he had been exposed to any impure contact. His answers, frankly expressed, seemed to permit no accusation of connexion *a prepostera venere*. There was neither to be found on his genital organs nor other parts, the least trace that it was possible to connect with the cicatrice of a primitive ulcer. Neither the skin nor the mucous membrane, exhibited any secondary eruption, and tissues as deep as the osseous system presented no symptom of a syphilitic affection. In short, all the organism showed itself to be in a healthy state, save the affection that we proceed to describe.

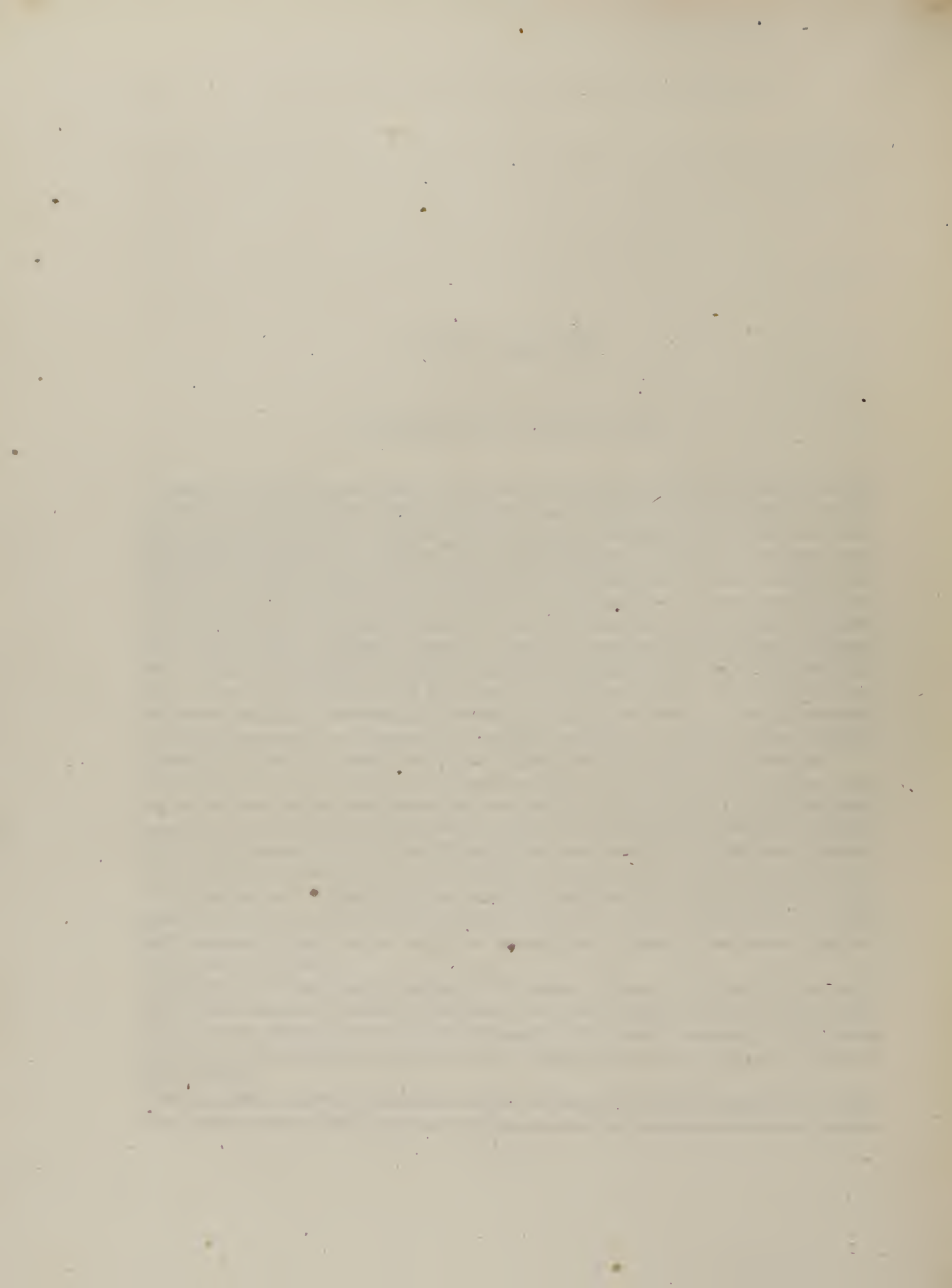
The patient could not indicate in a precise manner the period when the numerous vegetations that were seated round about his anus, began to be developed. He remembered, however, that, in the course of the month of May, in consequence of labor very fatiguing, and of much running, he felt a lively itching at the anus, the folds of which were tumified. This state excited an imperious desire to scratch, so far as, often, to produce excoriations.

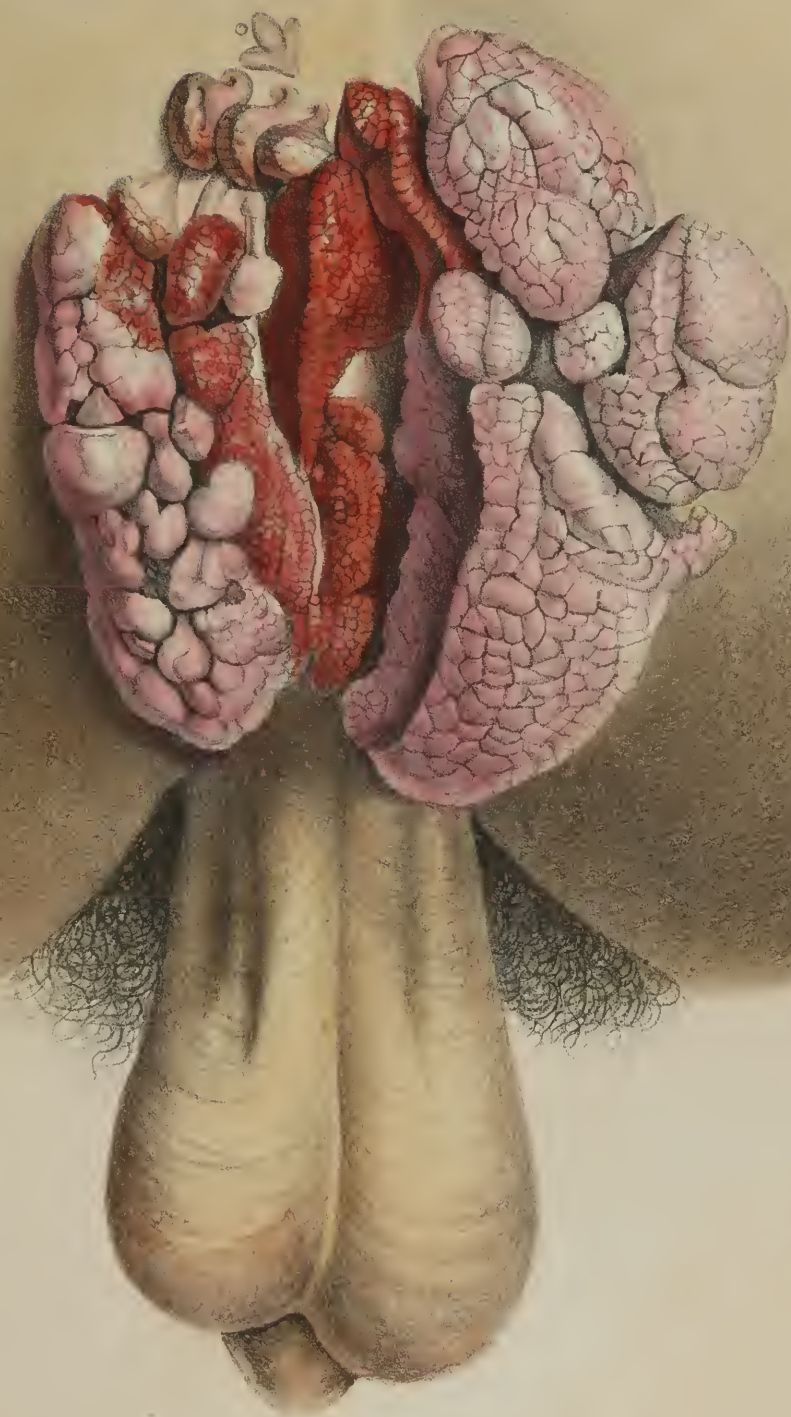
No treatment was adopted; and the means of cleanliness were even neglected, as the patient declared to us that he had not taken a bath for ten years. Nevertheless, the itchings disappeared after a score of days; or, at least, they changed in their nature, and became much less intense.

Such were the precursory symptoms of the actual affection. Very small granulations were at first shown on the sides of the anus; then the eruption increased, step by step, with a constant progress, until it is now developed into a mass of vegetations, at all times bathed by a muco-purulent secretion, that the slightest touch of the diseased parts will render sanious.

We can, also, see here the characters assigned to different varieties of vegetations. Some, at the commencement, offer simple isolated granulations, due to the extroversion of mucous











or cutaneous follicles ; others, more advanced, are themselves covered with granulations more or less projecting, and most of them, are agglomerated in large sessile plates, or decidedly predicated, and sustained by a single stalk, in some instances quite thick, bearing numerous branches. On the buttocks, and in the parts where they are freely developed, they represent very well the cauliflower, whilst in the immediate vicinity of the anus, pressed by the lateral masses, they have the form of the comb of a cock, or of raspberries. We see, also, that their consistence and the thickness of the epidermis that covers them varies, according as they are more or less exposed to the drying action of the air. On the folds of the anus, they are humid, friable, bleed easily, and are bathed by an abundant secretion of pus and mucus. But, in proportion as they are distant from the central parts, they are paler, with a surface less granulated, and are not so easily fretted. On the external limits, some portions have a consistence and dryness, scarcely differing from that of the contiguous skin.

December 27th. There was much irritation in the diseased parts. Dressed with the solution of opium, and restricted the patient's diet.

January 2d. The vegetations showed more inflammatory super-excitation, but their volume appeared to follow the regular increase. The same dressings ; we gave the fourth of the alimentary allowance.

January 4th. The vegetations were removed with the aid of the scissors ; after which, compresses were applied, soaked with cold water. Diet low.

January 6th. We cut off some small vegetations that rested in the folds of the anus. Continued the applications of cold water, and gave half an allowance of food.

January 12th. All is cicatrized on the skin of the circumference of the anus. Water dressings continued. Three-fourths of an allowance of food.

January 17th. Cured.

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## EXPLANATION OF PLATE XII., BIS.

The patient is placed in such a manner that the separation of the buttocks, allows us to see at one view the vegetations, cleansed from the muco-purulent matter that covered them. On the median line, in the neighborhood of the anus, restrained in their development, pressed by the lateral masses, and but little exposed to the contact of the air, they show themselves flattened, and in some points, under the form of cock's-combs. Their surface is there finely granulated, colored a lively red, and constantly bathed by an abundant muco-purulent secretion. In many places the epidermis is wanting.

At some distance from the parts that have been described, the vegetations have a paler tint, the granulations are more developed, and covered with an epidermis more resisting. Finally, the elements that form the groups can be easily distinguished. Towards the coccygeal region, we can equally see the pedicles that distinguish the main stalks from the radiating branches. On the right side and upper part, we remark, particularly, forms which resemble the cauliflower ; while on the same side, near the scrotum, they have the appearance of sessile plates. On the left are some portions of vegetating tissue resembling very much strawberries or raspberries.

Another variety makes its appearance on the alæ and lobule of the nose, or on the forehead ; or it may appear on the tongue, or the neck of the uterus. In these situations it is sometimes taken for a cancerous affection, and should be subjected to a very careful diagnosis.

Assembled in circular groups, these tubercles are denominated syphilitic *herpes*. They are commonly complicated with a scrofulous, scorbutic, or herpetic diathesis ; their progress is slow and without much pain, and they gradually increase in size, till they soften and ulcerate. This is the most formidable of all the secondary symptoms, produces great deformity, and is difficult to cure.

Resolution is the first object in the treatment of these tubercles, which, before the softening or commencement of ulceration, may be obtained in some cases by the exhibition of the iodide of mercury, with the iodide of potassium. If the general health of the patient presents no counter-indications, the treatment may be commenced by giving a pill containing one grain of the mercury, combined with conium or opium, and with a solution of the iodide of potassium, in doses of ten grains a day. On the fifth day the dose of the mercury may be doubled, and that of the potassium increased. It is not generally necessary to augment the mercury further, or continue it long, and the treatment is completed by the iodide of potassium. Resolution is also effected by mercurial fumigations, alternating with baths. Sarsaparilla may be combined with the iodide of potassium, frequently, with the happiest results. Cooling lotions, and local applications of the solution of opium poultices, fomentations with the infusion of poppy and henbane, and the employment of leeches at a little distance from the tubercle, are recommended by high authorities.

When the inflammation is subdued, and the tubercles remain indolent, mercurial frictions and stimulating washes may be of service. A local antiphlogistic treatment must be pursued, whatever be the internal treatment, as long as any inflammation is present. In the ulcerative stages of tubercles, the remedies do not differ from those that are useful in primary chancre. A solution of nitrate of mercury in nitric acid applied to the surface of the ulcers, has been found a very useful caustic. In these stages, the various forms of mercury, the iodide of potassium, decoctions of Feltz and Zittman, liquor arsenicalis, arseniate of soda, antimony, or the nitro-muriatic acid, may be employed at discretion, for one will often succeed when another fails — arsenic may cure where mercury has produced no apparent effect, and sometimes all alike seem useless. In such cases the patient may be removed to a fresh

atmosphere, or a more genial climate, his general health must be carefully attended to, and the treatment resumed under more favorable auspices.

Constitutional syphilitic ulcerations, not preceded by pustules or tubercles, are very rare ; but they sometimes appear preceded only by a slight itching and redness of the skin, to which ulceration immediately succeeds. They have the strongly marked syphilitic characteristics. Usually they are situated about the nose, edges of the mouth, eyelids, ears, mastoidean region, and are common upon the mammæ, near the umbilicus, in the axillæ, the groins, and round the edges of the nails. They also make their appearance in the form of fissures, where the folds of the skin favor their production. These are seen on the scrotum, around the anus, the umbilicus, the commissures of the fingers and toes, the folds of the eyelids, the lips, the palms of the hands, and the soles of the feet. The local and general treatment do not differ from that of other syphilitic ulcers just described.

*Vegetations* or excrescences, form the last of the diseases of the skin belonging to the class of secondary symptoms. They are of various forms and appearances, and show themselves upon the skin and edges of the mucous membranes. They have been divided into three varieties : the horny and inorganic excrescences of the epidermis ; the cellulo-vascular, composed chiefly of blood-vessels, growing from the surface of mucous membranes, and even from the skin itself. They arise from long continued irritation and inflammation, and are found on the surface of the glans and prepuce, after protracted balanitis or posthitis, about the anus, and upon cicatrices or the surfaces of old constitutional ulcers of the skin.

The inorganic forms, called venereal warts, may be removed by the knife or ligature, or by touching them with nitric acid, being careful to avoid the healthy parts. Where the vegetations are vascular, large and inflamed, leeches are of service and after inflammation is subdued, the knife or scissors may be selected for their removal ; but if painful and inflamed, the operation is likely to extend the disease, and give rise to larger growths. The muriate of gold, in the form of ointment or solution, is considered as one of the best local applications ; but we may use the aqueous solution of opium to subdue pain, and the mercurial ointment if they are indolent. If they are destroyed with caustic, the nitrate of silver is perhaps as good as any other. When these vegetations are clearly syphilitic, constitutional treatment and mercurial fumigations are of great service.

A kind of excrescence, called condyloma, or crista-galli, sometimes appears around



the anus, or between the glans and prepuce, or on the external part of the female organs, which consists of a development of the skin or mucous membrane, and the subjacent cellular tissue, forming a soft, flattened, elongated, indolent tumor, which is sometimes red, painful, and excoriated, secreting an offensive pus, and at others quite indolent. They may depend upon an ulcer, situated in the folds of the integument or the mucous membrane. The inflammation, if any, must be subdued, and they may then be treated with frictions of mercurial ointment, or the muriate of gold. Their treatment generally is the same as that of an indurated chancre, and in some cases their excision by the scissors or scalpel is demanded, in consequence of their situation interfering with certain necessary functions of nature.

There is one form of cutaneous syphilitic disease, that of mucous tubercles, or papulæ, for which Ricord prescribes the following local treatment, to which, he says, they yield with astonishing celerity, whether situated in the anus, vulva, groin, between the toes, at the umbilicus, or axilla. While the general treatment is such as is required for a constitutional affection, the diseased parts are to be washed, if not indurated, with pure chloride of soda, or if indurated or irritated, with the chloride diluted, so as to produce a tingling without pain. After these washings, twice a day, the diseased parts are to be sprinkled with calomel. Eight or ten days of this treatment will cause enormous masses of these eruptions to disappear.





Fig. 2



Fig. 4.



Fig. 3.







## PLATE XIII.

### IMPETIGENOUS TUBERCULO-CRUSTACEA: RELAPSE OF SECONDARY SYMPTOMS; SLOW FORM.

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#### ULCERATED IMPETIGENOUS SYPHILIS. (VARIETY OF IMPETIGO RODENS.)

#### CASE FIRST.

THIS patient, 32 years of age, born of healthy parents, with a strong constitution, vaccinated, and married, had always enjoyed good health until two years ago, when he contracted, for the first time, with a woman who was not his wife, an urethral blenorrhagia, which was followed by an acute epididymitis.

Antiphlogistics and balsams, (copaiba and cubebs,) effected, in about three months, the cure of these accidents without any manifest complication.

Six months after the cure, and, this time, without having had other connexions than those he had with his wife, he perceived an ulceration at the base of the glans. The diseased part was hard, indolent, and furnished but very little pus. In the groins were many engorgements that occasioned no pain, and which afterwards disappeared without suppuration. For these accidents the patient was under treatment during three months. He took mercurial pills, of which he knew not the formula.

Six weeks after the commencement of the ulceration of the penis, pains of the head supervened, particularly at night; subsequently, appeared a swelling of the posterior cervical ganglions, accompanied with great pain in the movements of the neck. After severe fatigue, the patient observed, all at once, a crustaceous eruption develop itself on the scalp. An alopecia, partial and disseminated; some nocturnal pains of the members, that he took for rheumatism, afterwards manifested themselves.

These accidents were treated with bitter drinks, and the proto-iodide of mercury in pills,

in successive doses of one, two, and three grains daily. They were augmented every eight days by one additional grain.

After the last dose, followed a stomatitis, which forced the patient to suspend for a time, the employment of the mercurial pills. He was then subjected to the use of the nitric lemonade; took, every morning, four scruples of sulphur, mixed with honey under the form of a confection. At the same time he used a gargle, sharpened with the hydrochloric acid.

Ten days of this medication sufficed to remove the mercurial accidents, and it was then possible to resume the mercurial treatment, which was continued during two months, when every symptom had disappeared.

The patient was convinced that all the symptoms which have been enumerated, ought to be attributed to the gonorrhœa that he had formerly had; and, still more, he accused himself with having communicated to his wife the disease that we are going to describe, and of which the following are the antecedents:

Madam was born of healthy parents, aged 29, and in her infancy had had small pox; since then she had enjoyed good health; nevertheless, before the occurrence of the disease for which she came under our observation, she was for some time affected with a chronic and purulent catarrh of the uterus. She had had six children.

Eight days after having had many connexions with a man who was not her husband, she felt, in urinating, sharp smarting, and perceived an abrasion of one of the nymphæ. To this abrasion succeeded an ulceration, that increased little by little, the base of which was indurated. After this appeared an engorgement of the neighboring groin. For these first symptoms, the patient had never consulted any doctor; they were cured by simple means.

Three months later, pains of the throat supervened, and, successively, pimples on the vulva were developed. An engorgement of the cervical ganglions next occurred, and crusts appeared on the scalp.

When the patient came to consult us, these accidents had lasted for six months, and she had eruptive spots on the amygdalæ and on the vulva; the latter were confluent, much developed, and almost vegetating.

All these symptoms disappeared in about three months, under the influence of chloride lotions, calomel powder, and pills of the proto-iodide of mercury.

Madam concealed from her husband all the primitive accidents that she had had; and she began to complain only when the secondary symptoms no longer permitted her to dissemble. Then she accused her husband with having been the author of her malady; this, however, was untrue, for, from her own confessions, that we have related above, the ulceration that the husband had on the penis, made its appearance eight days subsequently to the time of the appearance of her own.

But let us return to the history of the husband. Six months since he thought himself cured, when he experienced during the night, pains of the two tibial bones. On different points of the face, appeared dark red spots; they soon became projecting, round, and were all covered with yellowish crusts, shell-like and rugous. After their fall, tubercles were seen, the surfaces of which were slightly ulcerated.

This tuberculo-impetiginous eruption, disseminated in some points, and grouped in others, had neither been preceded by nor accompanied with fever, but it had often occasioned quite lively itching.

The patient was subjected to the use of the ptisan of dulcamara ; he took pills of the proto-iodide of mercury, the strongest dose of which was three grains a day. Every night a friction was made on the eruption, with the following ointment :

R. White precipitate, 4 parts.  
Sulphur cerate, 30 parts.

Under the influence of this treatment, the crusts became detached, and were not reproduced. Little by little resolution of the tubercles was effected ; but those that were grouped on the chin had vegetated, and it was necessary to cauterize them with the liquid acid nitrate of mercury.

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## SECOND CASE.

THIS patient, now 70 years of age, in his infancy and up to the age of twelve, had been excessively meagre and pallid, but without characterized disease. At five years he had on the left thigh an abscess, probably scrofulous. A short time after he experienced considerable pain in the coxo-femoral articulation. Resisting the action of the bitters and repeated antiphlogistic treatment, this articular pain has persisted to the present day.

For about the last fifty years, he has been tormented by a sebaceous acne of the face, and by a black pityriasis in extended patches on the shoulders and on the back.

For two years he had sexual connexion with a woman who, previously, had been for ten years his mistress, but whom he had lost sight of for a long time.

Eight days after these connexions, he perceived the existence of a chancre on the prepuce. It became indurated, and it was then that he presented himself, the 8th of April, 1842, and received the following treatment :

The ptisan of soap ; pills of the proto-iodide of mercury, in the dose of one to two grains daily.

A little erythema that supervened in the throat, necessitated, besides, the employment of an alum gargle. Six weeks of this treatment effected a cure, without any other manifestation of secondary syphilitic accidents, except the persistence of the induration of the chancre.

The 14th of February, 1843, the patient returned with an eruption that was seated on the upper lip and the right ala of the nose. This eruption of the impetigenous form, commenced by a small pimple situated near the nostril. This pimple was soon covered with crusts, at first yellow, and then greenish, shell-like and rugous. Soon other pimples, of the same nature, appeared around it, and formed a crustaceous patch about all the lip and nostril. In this point the skin was thick, but it presented no œdemato-erysipelatous base, such as often accompanies common impetigo.

The eruption was nicely circumscribed by healthy skin, without any inflammatory circle. The crustaceous exudation seemed to be more extended than the surface that furnished it.



At the point of junction of the lip with the nose, it was thickened and honey-comb like. It ended by falling off and exposing an ulceration, which, penetrating into the nasal fossa, had detached the lip from the ala of the nose. This eruption had not been accompanied nor preceded by fever, and had never caused any itching nor much pain.

The following is the treatment under which he was placed :

There was applied on the diseased parts, lint, moistened with a liquid prepared as below.

R. Aquæ destill. part. 200.

Tinct. Iodinii, part. 6.

Potassii Iodidi, part.  $\frac{1}{2}$ .

Every day were administered two-thirds of a grain of the iodide of potassium, in three doses, taken in the ptisan of dulcamara. One pill of the proto-iodide of mercury daily ; then two, until the treatment was completed. He was cured by the 28th of March, 1843.

At the beginning of January, 1845, he had experienced no relapse.

This patient had never had engorgements of the cervical ganglions, and the fact deserves to be stated ; for this engorgement, that is sometimes wanting, becomes more and more rare after the age of fifty.

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### EXPLANATION OF PLATE XIII.

*Figure 1.* Impetigenous tuberculo-crustacea ; relapse of secondary accidents.

*Figure 2.* Spots of the termination of the eruption represented in Figure 1. We see on the chin a patch that has succeeded to three tubercles grouped together below the under lip.

*Figure 3.* Impetigenous pustulo-crustaceous eruptions, ulcerated, (variety of Impetigo rodens). A part of the eruption is still covered with crusts ; but about the ala of the nose they have fallen off, and exposed an ulceration which has extended up in the nostril.

## CHAPTER X.

### SECONDARY SYMPTOMS.—ULCERATIONS, &c.

Of the tonsils, mouth, and throat. — The premonitory general symptoms. — The local. — Tonsil most liable to be attacked first. — Sometimes the ulcer resembles cancer. — Many varieties of ulcer. — General sloughing alarming : the treatment necessary. — Local treatment, mainly gargles and caustic. The general treatment the same as in the primary disease. — *Iritis* : symptoms. — General and local antiphlogistic treatment. — Blisters. Mercurial dressings. Belladonna. — Syphilitic *Sarcocoele* : symptoms : treatment. — Falling off of the hair and nails : treatment. — General advice upon practice.

In a considerable proportion of cases, ulcerations of the tonsils, mouth, and throat, are the first of the constitutional symptoms which manifest themselves. They are preceded generally by languor in the evening, indisposition to take active exercise, fugitive pains in the shoulders and legs, and unrefreshing sleep. These fugitive pains cease with the appearance of the ulceration.

The local symptoms which precede the venereal sore throat, are at first a slight uneasiness in swallowing, which increases in a few days to painfulness ; a dryness in the throat on awaking, and a peculiar painfulness attending the effort to swallow saliva — and, finally, a slight swelling and tenderness are discovered externally, on the site of the tonsil. These symptoms, however, do not strongly differ from those of an ordinary sore throat ; but we may generally be guided by other circumstances, and especially, the fact of the primary symptoms having previously existed.

On inspecting the throat, we find one tonsil, or both, with increased redness, swollen, and when the disease has proceeded so far, an ulcer, which Hunter describes as “a fair loss of substance, part being dug out, as it were, from the body of the tonsil, with undermined edges : this is commonly very foul, having white, thick matter adhering to it like a slough, which cannot be washed away.” This, though regarded as the peculiar type of the syphilitic sore throat, is not an absolute

indication. An ulcer, closely resembling this may be non-specific, and on the other hand the truly syphilitic affections of the throat and surrounding parts, present a great variety of appearances.

Though the tonsil is the part most liable to be first attacked in the venereal ulceration, yet we may find it in the back part of the pharynx, concealed from view by the velum-palati, where it may be seen by depressing the tongue and raising the palate with a proper instrument. A speculum for examining diseases of the throat should be in the hands of every surgeon.

An ulcer of the pharynx may also be situated below the level of the base of the tongue, and in this case there is danger of its extending still lower, so as to produce extreme suffering and even death, from the gradual destruction of the important organs here situated.

A very painful situation of these ulcers, is at the union of the anterior palatine arch with the tongue. In this case there is not only painful swallowing, but a pain shoots up one side of the head and face. Or the ulcer may be found at any point about the base of the tongue.

In other cases the ulcer may be found high up behind the velum, in the angle of the pharynx. An ulcer is sometimes, though rarely, situated on the posterior surface of the velum itself, in which case it is indicated by swelling, redness, and may be ascertained by passing a probe with lint, behind, when, if there be an ulcer, the lint will exhibit the discharge.

We have other syphilitic ulcerations and affections of the tongue and lips, some of which are not easy to distinguish from cancer, and which the cancer doctors cure by the administration of mercury, thus gaining great credit for their skill in curing a disease which never had existence. The varieties of venereal ulcerations and fissures, to which these parts are liable, are very considerable, but they do not require a particular description, or indications of treatment, as we must be governed more by general rules than particular local symptoms.

The strongly marked Hunterian ulcer, already described, may be considered as the one extreme of the venereal ulcers of these parts; the other extreme is a slight superficial ulceration, like an aphthous ulcer, with a slight swelling, and some surrounding redness. It creeps along from place to place, and, unless seized by phagedena or sloughing, is of a mild and indolent character. Every shade may be found between these extreme varieties.



One of the most alarming aspects which the venereal sore throat can assume, is that of a general sloughing ulceration, involving both tonsils, the entire velum, and the back of the pharynx, which all seem converted into a pultaceous mass, or entirely covered with a soft slough, which adheres tenaciously to the surface. The patient can scarcely swallow the blandest fluid; a ropy saliva flows constantly from his mouth by day, and when he sleeps at night threatens him with suffocation. The general health gives way under these irritations; his strength is prostrated, he is extremely emaciated, and has a high grade of hectic fever; a most pitiable and alarming condition, and requiring the soundest judgment for its treatment. The system must be sustained and strengthened, and the ulceration arrested by topical applications, while mercury must be cautiously administered.

The local treatment of ulcers of the throat and mouth, consists almost entirely of gargles and caustic. Gargles of cicuta and sage, and of corrosive sublimate may be administered with advantage. Cauterization may be effected with a strong solution of the nitrate of silver, or with the acid nitrate of mercury, or as Colles recommends, the muriate of antimony. Cauterizing washes may be applied in all the situations we have heretofore described, by means of a piece of lint firmly attached to the end of an aneurism needle, or any similar instrument; but in such cases the lint containing the caustic must be well secured against removal.

In the phagedenic forms of these ulcers, opiated and other narcotic gargles produce a good effect, and when the inflammation has abated, cauterizations with hydrochloric acid and gargles of bark are to be ranked among the best modes of treatment.

If the ulcerations of the pharynx proceed so as to threaten the entire destruction of the uvula, it should be removed, as its separation in sleep might occasion serious difficulty, by its falling on the glottis.

Aside from the general constitutional treatment, already very fully treated of, the local is to be governed by much the same principles as those laid down in regard to the primary symptoms, only, as the local succeeds the general infection, nothing like an abortive treatment can be thought of. Our first object must be to check the general disease by the prompt administration of the only medicine upon which we can rely with any confidence, and upon the success of which mainly depends the patient's chances of recovery; or, at all events, of a speedy and perfect cure.

When the ulcerations attack the roof of the mouth, or the interior of the nose, they often uncover the thin and very delicate bones of these parts, which exposure of surface may cause osteitis, terminating in caries, and sometimes in necrosis.



The bones in these cases are not the seat of the disease apparently. At least they yield to treatment and heal much more readily than in the tertiary form, where the bones are the seat of the disease. Important disfigurements may be thus produced, some of which, however, surgical art has found means to remedy, though medical skill may not always prevent them.

Among the secondary symptoms, is the syphilitic *iritis*, which most frequently accompanies the cutaneous eruptions. It is often characterized by an egg-shaped deformity of the pupil, which has its longest diameter running downward and outward, and an alteration of the color of the iris, which has sometimes excrescences on its pupillary margin and anterior surface. The chambers of the eye are often filled with albuminous effusions; these may be absorbed, or they may form adhesions, which restrict the movements of the pupil, or cause the formation of pseudo cataracts. The syphilitic ophthalmia does not essentially differ in its symptoms from that occasioned by non-specific inflammation.

The treatment of this affection must be energetic. The inflammation is first to be subdued by a general and local antiphlogistic treatment, the latter consisting in the application of leeches to the temples and mastoid processes. As soon as the inflammation and pain have been subdued, blisters are to be applied to the neck, temples and over the orbita. The suppuration of the blister on the neck is to be kept up, while those around the eye are to be dressed with mercurial ointment, and when they have dried up, the blisters are to be renewed and treated in the same manner. The mercurial ointment may also be applied below and around the eye, while the eye itself is to be treated with its own peculiar sedative—belladonna, by frictions around the orbit, up the nostrils, and by its internal administration in combination with mercury, the proto-iodide of which is probably, in this form of disease, the best preparation.

Syphilitic Sarcocoele, or swelling of the testicle, is a rare symptom of the secondary affection. The testicle grows indurated, increases in size, and becomes pear-shaped. This disease is often accompanied or preceded by pains in the loins, and the induration may affect the cord, or the epididymis, as well as the testicle itself. Though the general treatment may be sufficient, alone, to effect the cure, it may be accelerated by the application of five or six leeches every six or eight days along the cord, and the scrotum may be enveloped with half a drachm of strong mercurial ointment, and if painful, covered with an emollient cataplasm. If the patient cannot keep quiet and recumbent, we may resort to a mercurial plaster and compression.

The falling off of the hair and the nails are among the secondary symptoms which occasionally present themselves. The hair is loosed by some cutaneous affection of the scalp; the nails fall out from ulcerations around their matrices.

The most important treatment is that of the disease—the special or local, that which belongs to the particular cause. The head must be shaved, and the scalp rubbed with stimulants, ointment of proto-iodide of mercury, or tincture of cantharides diluted with alcohol. The nails must not be pulled out. We may let them fall off, and treat the matrix as for mucous tubercles.

I have not attempted to give a detail of particular cases, with the progressive treatment. It would be of very little service, as no two cases present precisely the same indications. The general principles of treatment, and their adaptation to certain symptoms, stages, and forms of the disease, is all that can be accomplished with any benefit.

Syphilis is the very last disease, the treatment of which should be confided to incompetent hands—how deplorable is the fact that it is the very one on which quackery most fattens and thrives!

And now as I am about to close the treatment of secondary syphilis, permit me to give you a little advice, which may at some future time be of great service.

Never allow yourselves to ride a hobby-horse; for when you least expect it he will throw you, and if in the fall you are not killed, you may be maimed for life, and bear about you the marks of a betrayed confidence in your favorite hobby. You must remember that in our profession, there are but very few, if any, perfect specifics, and we must, therefore, as careful physicians, jealous of our own character, look well to it, that we do not commit any palpable errors. Steer clear of quicksands, shoals, and breakers. In the treatment of this sometimes obstinate disease, we must have recourse, from time to time, as the case may require, to all the best remedies which have sooner or later been discovered, and recommended by the enterprising in our profession. For, after all, we are obliged to confess, however humiliating it may be to the man of learning, that there is *too* much conjecture and uncertainty in the art of medicine, for when one remedy does not succeed, we must resort to others. But how often do all our efforts fail. When the ordinary remedies are exhausted, I have found sometimes the muriated tincture of gold, or the chloride of gold and sodium, produce the best effects, and rapidly promote a cure. [See p. 1147, Dispensatory, U. S.]

## PLATE I.

[ DESCRIPTION OF FRONTISPIECE. ]

### TUBERCULOUS SYPHILIS : IRITIS : SECONDARY SYMPTOMS.

THIS patient, 21 years of age, with a fair skin, blonde hair, lymphatic appearance, and delicate constitution, contracted, at the age of eighteen years, a chancre from a public woman. He had never had syphilis before, and he had not had since any other primitive accident. The chancre existed on the edge of the prepuce ; it suppurated for two months, and was dressed with nothing except sugar of lead cerate.

In the course of the month that followed the cicatrization of the chancre, he was attacked with a syphilitic roseola, complicated with an iritis of the same nature, but very slight.

When he came under our observation, his eye was in good condition, but the skin of the body presented numerous red spots ; the hair fell out, and the epidermis of the scalp formed an abundant pityriasis. Prescribed pills of the proto-iodide of mercury, fumigations of cinnabar, and sarsaparilla.

On the 18th of October there was seen, on different points of the skin of the face, the trunk and the members, succeeding to exanthematous spots, a thickening of the tissues, which, by degrees, took the character of cherry-red tubercles, projecting, round and hard, but without alteration in the color of the surrounding skin ; some, notwithstanding, were encircled with an areola of a coppery red, and around others there was a papulous ring which gave to the eruption the form of an iris.

At the same time that the tuberculous eruption developed itself, the left eye, which had been affected with an erythematous iritis, became the seat of a most grave affection ; the vessels of the conjunctiva and sclerotica were deeply injected, and a brownish circle was drawn around the cornea. The color of the iris had a copper tint, and the extent of the anterior chamber seemed diminished in consequence of the swelling of the iris, on the inferior part of which was developed a tumor of a deep red color, projecting, touching the posterior face of the cornea, and analogous to the cutaneous tubercles. The pupil was deformed in a manner that has been regarded peculiar to syphilitic iritis : that is to say, offering an illipse, the great axis of which was directed from the top to the bottom, and from within











outwards ; it had lost much of its mobility, and remained habitually a little more dilated than that of the opposite eye. There was not much photophobia, but there existed a supra-orbital pain, with nocturnal exacerbations.

The patient was treated with pills of the proto-iodide of mercury, to each of which was added a grain of the powder of the leaves of belladonna. Frictions were made around the orbit, with an ointment composed of equal parts of the extract of belladonna and mercurial ointment.

Towards the end of November the eye was perfectly cured. The tubercle of the iris was completely absorbed ; the pupil had recovered its form and mobility.

Touching the cutaneous tubercles, they were all terminated by resolution ; some with desquamation of the epidermis, and the persistence, for a greater or less time, of a white border. To these tubercles succeeded depressed cicatrices, which maintained, for a long time, a deep brown tint. After the iritis had yielded, we ceased from the use of belladonna, and resumed the cinnabar fumigations, which had been suspended during the whole course of the disease of the eye. The patient was dismissed as cured on the 8th of January.

A month afterwards, pustules ulcerating the skin with great rapidity, appeared on different points of the body. The patient returned for treatment on the 5th of March.

The pustules commenced as furuncles, by a large induration, painful and red. The summit of the tumor suppurated ; soon all the base of the pustule ulcerated, and increased each day both in size and depth. In April an ulceration appeared on the face.

For two months the sores were dressed with a solution of iodine. Each day he took a pill, containing one grain of the proto-iodide of mercury, and two-thirds of a grain of the iodide of potassium in solution. On the 5th of May, he left cured : some of the cicatrices were red and others violet.

The cure lasted but a month. New and deep ulcerations, with a gray and bleeding base, were formed with extreme rapidity, chiefly on the shoulders, the arm, and the inferior extremities.

He was subjected to a new mercurial treatment with the proto-iodide pills. He had the baths of Baresges, alkaline baths and bitter diet-drink. His sores were cicatrized in about two months, but he remained under treatment for three months, and at the end of September was discharged.

This new cure continued for only fifteen days. He returned on the 15th of October with a large ulceration on the scalp at the top of the forehead, and with osteocopic pains in each tibia, where were presented, in their upper third, slightly projecting tumors. Treated for two months with the iodide of potassium, pills of the proto-iodide of mercury, bitter drinks, and alkaline baths.

On the 28th of January he left cured of his ulcerations, but, during this last period, the lateral cervical ganglions were engorged as if they were scrofulous. All the morbid action appeared to concentrate itself on these glands, during seven or eight months ; they became enormous ; the neck, transversely, was extraordinarily large. In the month of August he entered the hospital, and was under the care of a distinguished physician, who treated him with iodine potions and baths for two months and a half, when he left in the same condition as that in which he entered.

In the month of November, a mucous discharge, thick and fetid, commenced from the nose.



In December the arch of the palate became bent, painful and red, and a perforation took place on a level with the tumor, on the 25th of the month. In January debris of bone came away through the perforation. There were recognised, easily, in this debris, the vomer and the perpendicular plate of the ethmoid.

An abundant suppuration was discharged, from this time, by the mouth. On the 19th of January, he applied for treatment, in the following state :

Emaciation extreme, lateral glands of the neck forming, on each side, an oblong tumor, reaching from the lobule of the ear to the middle of the neck, and as large as the shut hand.

The perforation of the palate extended from the posterior part of the superior maxillary arch to the palatine bone, and permitted the introduction of the index finger.

The sides of the perforation were red, suppurating and painful ; the secretion of mucus was abundant, and mixed with pus coming from the perforation. There was a want of appetite, white tongue, a fever every evening prolonged through the greater part of the night, considerable weakness, and an impossibility of leaving the bed.

The disease made no sensible progress during the months of February and March, but the patient, nevertheless, continued very feeble.

Towards the 15th of April, the fever became continued, but was increased in the evening.

On the 28th of April, it increased with a marked shivering ; and also on the next day. The following days there were many chills in the twenty-four hours ; a considerable heat, with copious sweating, succeeded to the shivering ; diarrhœa supervened, and the patient succumbed after one of these febrile exacerbations, in much agony, the 4th of May, nearly three years after the original attack.

During the last period, the state of the patient would not allow active medicine to be administered to him.

Autopsy twenty-four hours after death.

The palatine arch had a large perforation ; the palatine apophysis of the superior maxilla, the palatine bone in its horizontal portion, the entire vomer, and the vertical plate of the ethmoid were destroyed. The maxillary apophysis was necrosed in an extent greater than the perforation, and if the patient had lived some months longer, all the osseous parts that formed the palatine arch would have been destroyed.

The tumor of the right tibia seemed more projecting than that of the left : after the dissection of the skin, we raised up the periosteum, which was thickened, white, and more difficult to separate from the osseous tissues than in the healthy parts ; but the thickening was not considerable, and did not exist over a space larger than a half-dime piece. The thickening of the periosteum was continuous with an analogous alteration of the aponeurosis that enveloped the muscles of the posterior region of the leg. It was difficult to separate that aponeurosis from the muscles, and in raising it, there was discovered a yellowish lardaceous tissue, that was nothing else than the muscular fibre, which had undergone transformation ; for we could see, manifestly, the healthy fibres continue themselves with fibres still distinct, by their direction, to the middle of the lardaceous tissue that occupied a part of the muscles, and which equalled, in its volume, a pigeon's egg.

The tibia was sawn on a level with the muscular alteration : the bony tissue had not undergone any sensible modification, except that the osseous cylinder was a little thicker, the medullary canal was a little dilated, and the marrow which it contained had undergone an

alteration similar to that of the muscles, opposite the point where the tumor existed ; it was firm, and resembled the degeneration of the muscles already described, differing from it only by the absence of fibrous texture.

The exostosis of the opposite side presented a thickening of the periosteum, which diminished from the centre to the circumference of the exostosis ; it was very adherent, dissection separated it with difficulty, and where it was raised, we distinguished on the osseous tissue of the anterior face of the tibia, a slightly projecting circle, of which the circumference was formed by small osseous tubercles that produced on the bone a little relief. In this respect it was like the syphilitic circles that appeared on the skin, the centre of which was formed by sound integument. The bone being sawn in this place presented a hypertrophy of its tissue. Its cellules were more developed, the medullary canal seemed a little dilated, the marrow had undergone that hardened yellowish transformation described above.

The lateral glandular masses of the neck were composed of glands joined together, but still distinct, each having nearly the volume of a walnut.

The interior of the glands presented no alteration ; they were a grayish white tissue, of an uniform aspect ; there was merely a simple hypertrophy.

The greater part of the mesenteric glands were hypertrophied like those of the neck ; they were not so pale : no ulceration was found in the intestines.

The lungs presented, in their lateral and posterior surface, spots of a violet hue, which were indurated kernels, that, at first view, resembled those little masses seen in pneumonia, when patients have died. We found no pus in any of these kernels, which, divided, presented a deep red tissue, and friable. In the left lung, there were five small cavities, half filled, and containing a whitish viscous, and a grayish pultaceous matter, which seemed to have issued from the walls of the ulcers, that were soft and gray. The largest of these cavities could contain a small nut. They were situated near to each other, in the inferior part, and near the external side of the lung.

There was uncertainty as to the nature of the pulmonary alterations, and it was difficult to say if they were syphilitic — if those centres contained tertiary syphilitic tubercles, that had been softened and expelled, or if they were the result of a purulent absorption.

The other organs presented no alteration.

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## EXPLANATION OF PLATE I.

On the face may be seen a disseminated tuberculous eruption ; on the right side of the forehead is a tubercle surrounded by an areola and a circle of papulæ, in the form of an iris.

On the left side of the forehead some tubercles have desquamated, and are surrounded by an epidermic border.

At the inferior part of the iris of the left eye is a tumor analogous to the tubercles of the skin.

## CHAPTER XI.

### TERTIARY SYPHILIS.—GENERAL SYMPTOMS.

**THEY** are liable to be confounded with other affections. — This form loses in a great measure its specific character. — The secondary nearly always has preceded the tertiary disease. — *Lupus Syphiliticus* : General treatment—Local treatment. — Pains in the *bones* : treatment. — Inflammation of the Periosteum.—*Bones diseased* : treatment.—A prevailing error that the disease of the bones is caused by mercury.—*Osseous Tumors* : treatment—Iodide of Potassium.—Dead pieces of bone should be removed.—Blisters. — Deep seated *Tubercles* of the cellular tissue : treatment.

THE specific virulence of syphilis appears to diminish in proportion as it is diffused through the system, and according to the depth of the tissues involved—thus we have first chancre, inoculating wherever a particle comes in contact with the living tissues not protected from its action ; next the secondary symptoms, more diffused and spreading over the whole surface, but still in certain ways communicable ; and, lastly, we have what are now generally distinguished as the tertiary symptoms, when the disease loses so much of its specific character as in many cases to be scarcely distinguishable, and it is probable that it is finally extinguished by an insensible gradation. This is especially the case when syphilis in its tertiary stage is communicated by hereditary transmission ; and its communication in any other way may be a matter of some doubt ; though I should hesitate to deny the possibility of direct absorption. In being transmitted from parent to child, the disease undergoes a still further modification ; and, losing its specific character, it developes itself in some one of the varieties of scrofula.

From the nature of the tertiary symptoms, and the ease with which they may be confounded with other diseases, the diagnosis is involved in much obscurity. We



must be guided chiefly by previous symptoms and attending circumstances. After the *primary* symptoms the *tertiary* are seldom if ever developed, without the previous appearance of the *secondary*, which form a characteristic chain between them. But as the secondary *may* appear, without the primary being noticed, so it seems to me quite possible, that the virus in the system may be in so small a quantity, or rather may find circumstances so unfavorable to its development, as to render the tertiary form its first sensible manifestation.

With the loss of specific character in the virus, the specific action of mercury seems to decrease, and probably in the same proportion. And in this point, I am forced to disagree with the school of Ricord. This truly eminent surgeon thinks that the specific action is more strongly shown in the secondary than in the primary stage. On the contrary, I think that the whole difficulty in the primary stage is in bringing the antidote in contact with the poison; and I shall never hesitate to meet the virus at its first onset, when mercury can be administered with any proper regard to peculiarities of condition.

The more *tertiary* symptoms resemble those termed secondary—and it may be difficult to draw the line where the one ends and the other commences—the more does the treatment conform to that of the secondary affections, and the more benefit is derived from the mercurial preparations.

Among the first of the symptoms which may be classed as tertiary, are *lupus syphiliticus*, or deep-seated tubercles of the skin and mucous membrane. These most frequently appear on the alæ and lobulus of the nose, but sometimes attack the tongue, cervix uteri, or the glands, where they may be mistaken for the superficial mucous tubercles. On the tongue, they have a scirrhus or carcinomatous character.

Scarcely distinguishable from, and apparently often complicated with scrofula or herpetic affections, these tubercles, are slow and painless in their progress. They penetrate deeply, produce great deformity, and become more and more indurated. After a time, a softening takes place, followed by an ulceration, difficult to arrest, and which destroys all the tissues involved in the induration.

This result is not uniform, as these tubercles, which may appear alone or in numbers, are capable of a spontaneous resolution, or withering without ulceration, leaving a horny crust, which, falling off, leaves a correspondent indentation.

As these deep-seated tubercular diseases have a general character, and require a similar treatment, any subdivision into species seems to me perfectly useless.



The first indication, is to attack and overcome any existing complications, scrofulous, cutaneous, &c. We then resort to mercurials. Mercury in combination with conium, appears to have a peculiar efficacy in these cases.

The local treatment is important. If there is much inflammation, leeches may be applied at a short distance from the tubercles. Irritations must be subdued by emollients and narcotics, opiated cataplasms and fomentations. If, on the other hand, the tubercles are of an indolent character, they may be treated with dressings of honey and proto-iodide of mercury, which, however, must not be continued long enough to cause irritation. Should this treatment fail, we must resort to cauterizations with the acid nitrate of mercury, but not deep enough to produce inflammation, which should, if possible, be avoided, or subdued as soon as possible when it occurs.

Washing with the chloride of soda, and afterwards sprinkling with calomel, often succeeds, even in the ulcerative stage, when there is not too much irritation. The treatment of these cases must be antiphlogistic, and depends so much upon the complications, that general directions other than these, can be of but little practical use.

These tubercles are not confined to the external parts, but may be developed in any of the internal soft tissues of the body; and, therefore, quite beyond the reach of observation or of local treatment. They have certainly been found in the heart and brain.

Pains of the bones are among the symptoms of this stage of syphilis. Generally, but not always, such pains are the first signs of inflammation, and thickening of the periosteum and medullary substance. They are liable to be confounded with rheumatism, and are to be distinguished from it by previous symptoms, and by their permanent locality and circumscribed limits. The intensity of the pains may depend upon the difficulty with which the periosteum and medullary membrane distend. The peculiar severity of these pains at night, often, but not always observed, has never been satisfactorily accounted for.

Ricord holds that when these pains are purely syphilitic in their origin, nothing so certainly relieves them as the proper administration of mercury; but the medicine now chiefly relied upon, in the whole management of tertiary symptoms, with their complications, is the iodide of potassium.

Antiphlogistics and sedatives may suspend or remove tertiary pains. We may make local applications of leeches, emollients and narcotics. If these means fail,

we must resort to blisters applied directly to the seat of the distress, dressed, when drawn, with opiated cerate, and covered with warm poultices, frequently renewed. This whole process is to be repeated if necessary, and as often as necessary. Or if the pain return too quickly, perpetual blisters may be employed; and only they who have experienced it, can describe the relief given by such counter-irritation. This treatment cures a great proportion of cases, but there are some in which nothing but a deep incision, and a consequent relief of the tension is of any service. In these rare cases, the surgeon must cut boldly, and the relief will instantaneously follow.

The superficial bones,—tibia, clavicle, ulna, radius, scapula, sternum, and cranium,—are liable to be affected with a loosening of the periosteum, and effusion under it, generally caused by a superficial osteitis, forming small tumors, generally painful, and fluctuating to the touch. Sometimes they are indolent for a long period; they may undergo spontaneous resolution, or suppurate and form abscesses. When laid open the bones are found to be denuded, carious or necrotic to a greater or less depth, or, under the most favorable aspects, presenting healthy granulations. A simple resolvent treatment may be tried, and a wash of the diluted tincture of iodine, gradually increased in strength, may be used if not contra-indicated by inflammation. Blisters, and the solution of corrosive sublimate, as prescribed for buboes, may produce a prompt resolution. Should the progress of resolution stop after its commencement, it may be hastened by an application of a mercurial plaster, or one of conium with iodide of lead, combined with methodical compression. Mechanical means might often be resorted to, I believe, in nearly every description of indolent tumor, with good effect.

Should suppuration take place, we must lose no time in making a free incision corresponding with the axis of the bone; and treat as in simple abscesses and affections of the bone.

The popular belief is that the diseases of the bones are caused, not by syphilis, but by the mercury employed in its treatment. We may as well put this matter at rest; for whatever effects mercury may produce, it is certain that syphilitic patients who have never taken a grain of it, are none the less liable to a *syphilitic osteitis*. Indeed, there is no reason to suppose that mercury alone ever produces it, except as it has sometimes been produced in the alveola, by the ulcerations of a violent salivation.

Since, then, with this exception, mercury, without syphilis, never produces osteitis, and syphilis does produce it, without mercury, we must attribute it fairly to the disease, rather than the remedy, or the disease and medicine united.

The bones nearest the surface are the ones usually attacked; and the disease attacks the superficies, either in circumscribed or diffused localities. Its progress is slow and chronic, or sub-acute. At first, its only indication may be the osteocopic pains before mentioned, but the swelling betrays the disease. When the tumor is caused by an effusion of osseous matter, the form is rough and irregular, as in the formation of callus in fractures; or the swelling may depend upon an increase of the whole thickness of the bone.

*Osteitis* may terminate in resolution, suppuration, caries, necrosis, and induration.

When the swelling depends upon an effusion of coagulable lymph, or an inflammation of the organic tissues, resolution is easy. In the spongy bones, those of the face particularly, suppuration is most frequent. Necrosis arises when the inflammation is very violent, from a sudden effusion in the bony tissues, or the destruction of the nutritive vessels around them. The permanent induration depends upon an effusion of the inorganic matter of the bones.

Until the osseous tumor is developed, the treatment must be the same as for the osteocopic pains and periostitis. Afterwards, blisters, followed by mercurial ointment, from half a drachm to a drachm a day, on the denuded surface, combined with the internal use of mercury, when not contra-indicated, sudorifics, and vapor baths, will produce the happiest results. The iodide of potassium may be given in preference to mercury, and in scrofulous complications, the iodide of iron. This treatment should be continued while any pain remains, or if the swelling increases or diminishes, but when the tumor becomes decidedly indolent and permanent, we may as well stop, and avoid exhausting the system uselessly.

In suppuration, or caries of the bones, and especially bones of the face, we must either dispense with the use of mercury, or watch it with the greatest care. In these cases the combinations of iodine and potassium have almost entirely superseded mercurials, and the cures effected by these preparations are almost miraculous. Patients have been restored, when the bones of the face, and even the skull, have been very far advanced in the progress of destruction.

There is one important indication in regard to syphilitic caries, particularly of the face, which must on no account be neglected. As soon and as fast as the diseased



portions of bone are separated from the sound they must be removed. Caries engenders caries, like the rotting of a tree, or the progress of gangrene. Pieces of dead bone, like other foreign substances, require to be removed before suppuration can cease. The neglect of making such removals may cause the most serious consequences, or even death itself, from the suppuration being kept up, and the diseased surface extended until it invades the bones of the neck, the skull, and perhaps the brain itself; but even in the worst cases, the recuperative powers of the human system are truly wonderful. Colles mentions an instance in which a patient coughed up a portion of the ring of the first vertebra, with one half of the articulating process on one side, and one third on the other. Still he recovered, married, and lived for several years afterwards!

The bones of the nose, when suppurating, must be frequently examined, and at the proper time the loosened parts removed by the forceps. The same should be done in regard to the palate; and in extensive ulcerations of the upper-jaw, and where the bones are too large to be removed through the nostrils, the skilful surgeon will find some means of breaking them down. The instruments employed in lithotrity have been successfully used for that purpose.

Among the best medicinal applications in these cases, is the use of blisters, continually applied as near the diseased part as possible.

When exostosis has occurred, it does not require to be meddled with, unless it produces too great a deformity, or interferes with the performance of important functions.

Late among the tertiary symptoms of syphilis, and in greatly undermined constitutions, the affections denominated deep-seated tubercles of the cellular tissues are developed. These tubercles are sometimes isolated, but generally pretty numerous; and they may appear on any part of the body, either separated or in groups. The substance of the tongue is not unfrequently attacked by them.

They begin with a scarcely perceptible, hard tumor, united to the skin, but moveable on the neighboring parts. They grow slowly and without pain, for five or six months or more, when they attain the size of a nut, become very hard, and adhere at all points of their surface. The next appearance is of an obscure fluctuation, which gradually becomes more distinct, and the skin changes to a red or purplish color, grows thin, and finally is perforated at several points, from which an ichorous pus is discharged, carrying with it organic remains. Extensive irregular ulcerations



succeed, that continue until the shell of the tubercle is entirely thrown out, when the reparative stage commences, and a cicatrice is formed, resembling that of one succeeding a burn. These tumors will arise on different parts of the body in succession, and go on for a series of years, in spite of all the remedies we can use. Here again we can derive no benefit from mercurials, since these symptoms appear, generally, in patients on whom mercury does not exert its specific action.

The abortive treatment of such tumors, when they appear in situations where it can be practised, is very clearly indicated. M. Cullerier advises that they should be attacked with blisters and caustics. This plan may answer; but the more safe and simple method seems to me to be extirpation. The knife I conceive to be an improvement upon the caustic, something as chopping down a tree with an axe is on burning it off at the stump. At any time before the suppurative stage, if not too numerous and too much agglomerated, they may easily be cut out, and the wound united by the first intention.

When suppuration takes place, as in other cases, we must allay inflammation by emollients and local sedatives; mercury can only be used with advantage when the suppuration leaves indurated venereal ulcers, which must be treated as in other similar conditions, in earlier stages of the disease.

The general treatment is that adapted to scrofula. Bitters and tonics may be given; and iodine alone, or combined with iron, may be useful in promoting resolution, when extirpation cannot be performed, from the number or the situation of the tubercles.

It would be impossible, without being unprofitably tedious, to go fully into all the obscure symptoms and complicated diseases, which may be referred to syphilis in its last stages. Our guide to the diagnosis in these cases, must be to a great extent the previous history of the patient. And as these symptoms gradually lose their specific character, we are to be governed the more by general principles of treatment.

## CHAPTER XII.

### SYPHILIS IN INFANTS.

DISEASE inherited from a parent, contracted from a nurse, or by other infection from a person having secondary syphilis. — Curious case in illustration. — At the time of birth the child manifesting symptoms of the disease. — Sometimes the symptoms are not seen until several days or weeks afterwards. — The ordinary symptoms are copper colored spots on the skin; ulcers in the throat. — Consequences if imperfectly cured. — The disease in the infant highly contagious. — Treatment : mercurials.

THERE is no class of venereal diseases more curious and important than *syphilis infantum*, and none which more forcibly shows to us the necessity of police regulations, for the prevention and eradication of affections of this specific nature.

In regard to such measures we need answer but the two following questions :

Firstly. Is the eradication of syphilis desirable ?

Secondly. Is it possible ?

Both questions are answerable in the affirmative. If any moral argument were needed, it is most especially to be found in that phase of syphilis we are about to present.

Infants are, of course, subject to a primary infection, by inoculation from chancre on the mother at the period of birth, or in any other way, the same as is the adult. It is not this form of the disease to which I would now invite attention.

Syphilis infantum, is that kind or development of the disease by which the foetus is affected, from a constitutional taint, inherited from the father by impregnation, or from the mother in generation or during utero-gestation, or which it may receive

from its nurse, or by other communication of secondary syphilis, to which infancy seems to be peculiarly liable.

I have found this disease developed under the following circumstances.

A man, who had had syphilis, but who supposed himself to be cured, marries : his wife in due time becomes pregnant, but before the seventh month, or at any period after the third, miscarries : a second or third miscarriage, begets suspicion of the cause, and upon examination, the fœtus is found to present evidences of disease. The cuticle is loose, and readily peels off in patches, the nails are wanting, and the face is shrivelled. Neither of the parents may exhibit appearances of syphilitic contamination but if they are put under a mercurial treatment, the next child may be born in full time, and perfectly healthy.

But in some cases, those perhaps where the venereal taint is less, or the vital powers greater, the child is born at full time, but in such a weakly state that it lives but a few hours, copper colored eruptions are seen about the anus and genitals, and sometimes spread over the whole body, and the countenance has the semblance of extreme old age.

But in other cases, where the disease is of still less virulence, the child, when born, is apparently healthy, and so remains for a period of from eight days to as many weeks. Then copper colored spots break out around the anus, upon the genital organs, and the inside of the thighs. The child's voice is a kind of hoarse screeching, showing an attack upon the throat, and ulcers are formed at the angles of the mouth, while aphthous ulcerations spread over the mucous membranes. A discharge flows from the nostrils ; ulcers and fissures spread upon the skin ; the glands enlarge, without much inflammation ; the child emaciates ; the skin becomes flabby, and it dies, greatly attenuated and exhausted.

This is the course of the disease when it is not arrested by treatment. Its virulence is certainly modified in some respects, for we do not find those deep and frightful ulcerations of the face, which affect the adult, nor does the disease often go on to the tertiary affections of the deep-seated tissues, except when imperfectly cured, when it may be followed by spinal curvature, disease of the hip-joint, and other deplorable results.

The child may receive the syphilitic taint from its nurse in sucking at the breast. Mr. Colles thinks that it does not become infected by the nurse unless the nipple is ulcerated ; but I am disposed to look upon this ulceration as an effect or accom-

paniment rather than a necessary condition of the infection. Still the communication of the disease appears to be generally carried on by the mucous surfaces.

But if the infant may be born with the disease, or receive it after its birth, by absorption from the mother, from a wet-nurse, or even from a dry-nurse, when strongly exposed to what I have termed the secondary affection, the malady so developed in the infant possesses a singular power of contagion. Though the disease, thus derived, has a very mild character.

For example : A syphilitic infant will affect its nurse. Ulceration, appearing around the nipple, is followed by ulcerations of a peculiar description about the vagina, and from these the disease, evidently of a secondary type, can be communicated to the husband. More than this — whole families of children have been known to be infected, from one to the other, the virulence of the disorder decreasing with each step from its source.

One fact in this connexion is worthy of notice. Though the syphilitic infant readily poisons the hired nurse, its own mother does not seem to be subject to this infection ; and the only reason that can be given for this is, that she is already thus affected, and is not liable to a fresh infection in the secondary stage of the disease ; though, like every other person, perfectly liable to the primary disease.

In the treatment of syphilis infantum, we are to be governed by the general principles of the treatment of this disease. If the infection come from the mother, she should immediately be treated with mercurials. If from the father, both must be put under treatment. If the child has a hired-nurse, she also must be put under the mercurial influence.

In many cases the administration of mercury to the mother or nurse, answers for the child ; but this is not always the case, and then we may give it directly, by baths, inunction, or internally, but in either case in doses mild in proportion to the tenderness and susceptibility of the infantile state ; otherwise we may produce convulsions, and suddenly destroy the life we are endeavoring to save. Children are not subject to ptyalism, nor the mercurial fever, which sometimes attend its exhibition in adults. The mildest form of the mercurial preparations is the *hydrargyrum cum creta*, and therefore this is the most suitable for infants ; it may be given in doses of two to four grains, twice a day.

The local treatment required, is to be guided by the same rules, modifying the applications to the age and strength of the patient.



Syphilis infantum, then, though certainly an effect of the specific virus of syphilis, exhibits the following curious modifications. It is infinitely more contagious—those who are exposed to the infection, rarely, if ever, escaping. The symptoms are always much the same, and not like the other forms of the disease, modified or varied by differences of age, temperament, or other circumstances. In the third remove, the affection is entirely a local one and has a mild character, becoming less and less virulent, the farther it is distant from its source, till it degenerates into diseases, not requiring a specific remedy for their cure.

I need not say that this is a disease to which the family physician should direct his serious attention ; nor that the entire confidence of the parties is of the greatest importance. Should there be a reasonable ground of suspicion, or, rather, should there be a strong probability that the father had secondary syphilis at the period of conception, I should not hesitate to prescribe a mild and carefully regulated mercurial course during utero-gestation : but each physician must judge for himself of the particular conditions that either warrant or forbid a resort to such treatment.

Another inference will be likely to be drawn from this subject. It is that persons, having in them a taint of the syphilitic virus, are not in a proper constitutional state for entering upon the duties of matrimony.

The dangers to infants from unhealthy nurses, and *vice versa*, must suggest themselves to every one who reflects ; and in such a case it would be extremely cruel to subject a healthy nurse to the infection of a diseased child.

The fact that an unquestionably syphilitic disease, may be communicated in so many ways, and through such various channels, may be important in accounting for its appearance, where, otherwise, it would involve a question of a very delicate and perplexing character.

## VENEREAL ERUPTIONS.

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THE following plates exhibit nearly all the varieties of the affections of the skin that manifest the constitutional action of syphilis. It is astonishing that a single disease, at first strictly local, should, when the system becomes contaminated, display itself on the cutaneous surface in so many different forms.

It ought always to be remembered, when diseases of this nature are presented for treatment, that all are not strictly syphilitic, which, to an inexperienced eye, appear to be so. The affection may, indeed, be the consequence of impure sexual intercourse, but, nevertheless, it may not possess the true characteristics of the chancrous disease. It is not an uncommon circumstance for sores to occur upon the genital organs after coition, followed by buboes in the groins, and succeeded, finally, by secondary symptoms in the throat and on the skin, which, although they are properly venereal, and are not truly syphilitic. Diseases of this nature were, I believe, first fully described by Mr. Abernethy, and denominated by him as *Pseudo-Syphilis*. It is not easy, in every case, to determine, whether the patient is affected with this or the real syphilitic affection. The history of the case is of some assistance in resolving doubts; the appearance of the original sore, when it can be seen, will usually afford much aid, and inoculation must, of course, be nearly always decisive in diagnosis.

Several of the cases that follow, were of this kind. The eruptions had no specific character, and they disappeared under simple treatment, without requiring specific remedies.





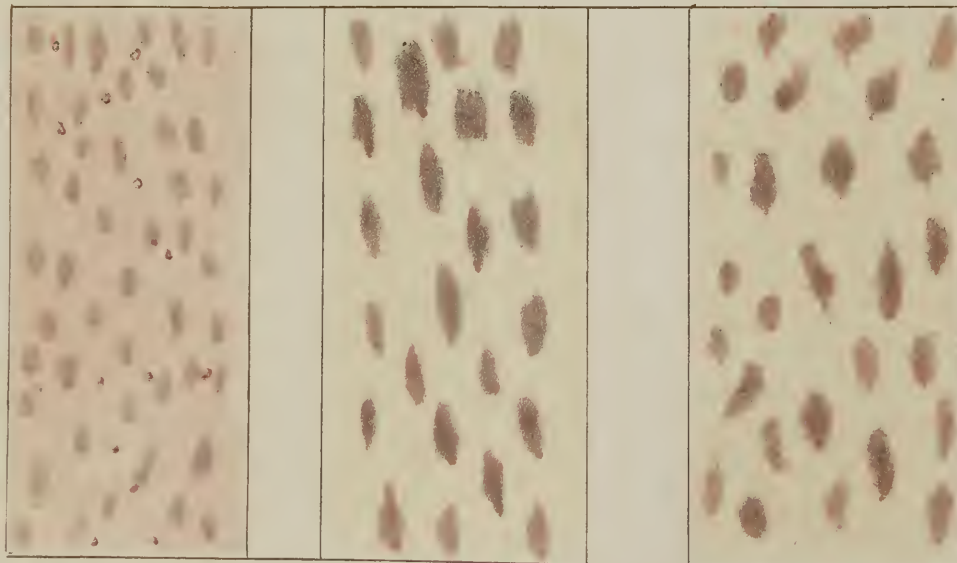


P. XVI.

Order I.

EXANTHEMATA.

*Purpuricous Patch*



P. XVI.

Order I.

EXANTHEMATA.

*Exanthema roseolum*



# EXANTHEMATA.

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## PLATE XV.

### EXANTHEMA ROSEOLUM.

THIS is a diffused efflorescence, or rash, preceded by slight fever and pains in the limbs, situated beneath the cuticle; it is formed by increased determination of blood to the vessels of the skin. Sometimes there is slight extravasation, which, presenting its color through the transparent cuticle, gives a beautiful rose or pink hue, the intensity of which varies in different individuals, from the slightest perceptible tint to the deepest roseate color.

In the forms which this eruption assumes, there is no regularity; the patches are separated from each other by healthy skin. In rubeola and scarlatina, the papillæ are raised; in this variety such is not the fact; and the eruption generally first shows itself on the abdomen. Most usually it is the first sign of general disturbance from the venereal poison, and precedes or accompanies other eruptions.

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## PLATE XVI.

### EXANTHEMA PUNICEUM.

THIS is a crimson or purplish colored venereal eruption, more intense in its color than the roseola, and it appears in very numerous spots. As may be seen in the plate, it varies in its shade and form.

The puniceous eruption makes its onset with slight febrile symptoms, and is often accompanied with a sore-throat. Like roseola, it is frequently a forerunner of other eruptions, or associated with them. It is a prevalent form of secondary symptoms. In strongly marked cases, there is a very apparent elevation of the diseased surface, particularly in the centre of each patch. When it has declined, there still remains a feeling to the touch, as if there was a thickening of the skin; while *spili coccinea*, an affection for which it may be mistaken, leaves a pit or loss of substance.



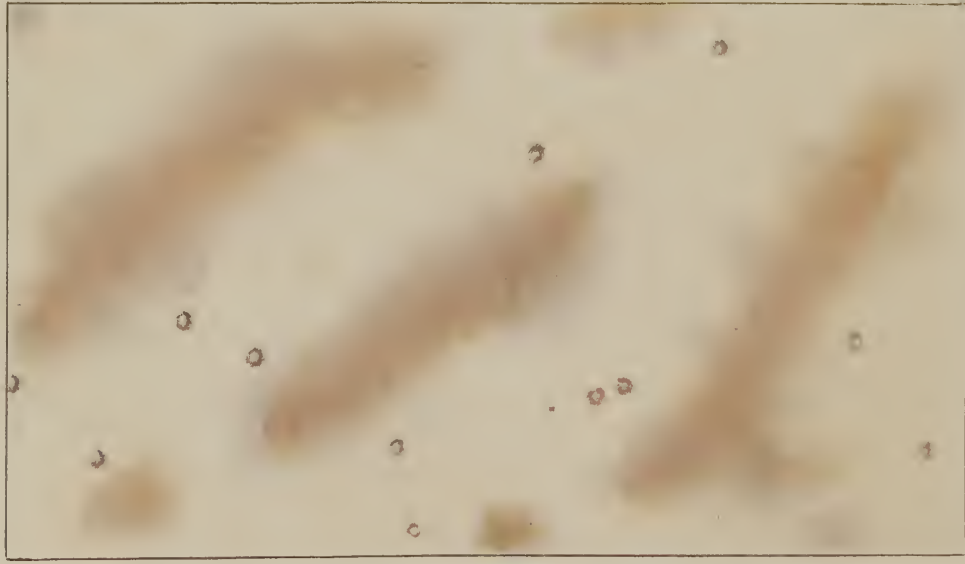




Order II.

PAPULÆ.

*Populæ longatæ.*



P. XVII.

EXAN<sup>th</sup> with PAPULÆ

*Pruriticus Patches set with Papulæ & solitary lichen.*







## PLATE XVII.

### PUNICEOUS PATCHES WITH PAPULÆ.

AN urethritis and a vesicle on the glans was followed by lichenous puniceous patches, the latter of which became set with enlarged papulæ on the skin, and with minute papulæ and vesicles on the scrotum. The case was cured with mercurials, sarsaparilla and warm baths.

---

## PAPULÆ.

A papula or pimple, is a very small and acuminate elevation of the cuticle, with an inflamed base, very seldom containing a fluid, or suppurating, and commonly terminating in scurf. Papulæ terminate by resolution, generally with furfuraceous desquamation of the epidermis. Willan divides this order into Strophulus, Lichen and Prurigo.

---

## PLATE XVIII.

### PAPULÆ ELONGATÆ.

THIS is a variety of Papulæ described by Judd, and shewn on Plate XVIII. It is thus characterised: It appears to be merely the natural rough asperities, or papillæ, as they have been termed, of the cuticle, enlarged and distended in wheals during the excitement caused by one kind of venereal virus; attended by partial fullness, from turgescence of the cuticle, and inflammation of the parts immediately beneath it; forming a sort of red cutis anserina. This eruption is accompanied by sore throat, and terminates in furfuration; it is a very scarce form of cutaneous affection.





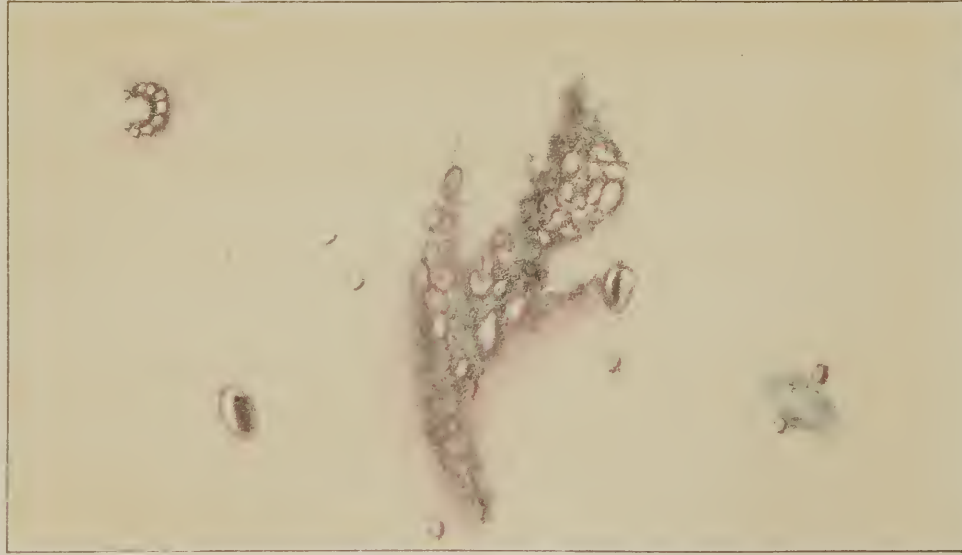


P.XV.

Order II

PAPULÆ.

2 *Lichen circumscriptus*



P.XIV.

Order II

PAPULÆ.

1 *Lichen borealis*









## PLATE XIX.

### LICHEN VENEREUS.

THIS is a pimple which may, through accidental circumstances, be made to vesicate, suppurate, and ulcerate. Syphilitic lichen differs from common lichen in having a large number of papulæ containing lymph, and which oftener become vesicular, or even pustular, wherever they are subject to a little friction from the clothing, and especially upon parts covered by hair. It is more apt to scab and incrust than common lichen.

In four or five months, a second set of lichen, not unusually follows the first; and if it is of the solitary form, it almost always is of a larger character than the primary eruption—fewer in number, disposed to be vesicular, often contains opaque lymph, forms incrustations, and frequently is blended with favi. It often happens that lichen solitarius is followed by lichen circumscriptus, or lichen racemosus.

---

## PLATE XX.

### A CHANCRE AND BUBO, FOLLOWED BY LICHEN CIRCUMSCRIPTUS, VESICLES, MACULÆ, AND ULTIMATELY LICHEN SOLITARIUS.

THE large patch represented in the plate, was situated on the side of the chest. The upper circle of vesicles, copied from near the angle of the mouth, is a perfect picture of Herpes circinatus. The red spot, drawn from one on the cheek, is similar to maculæ cruentatæ. It will also be observed, that there are a few spots representing lichen solitarius, which came out on the body and arms. This eruption appeared the first of March, on a patient who was infected with syphilis about the last of the previous December.

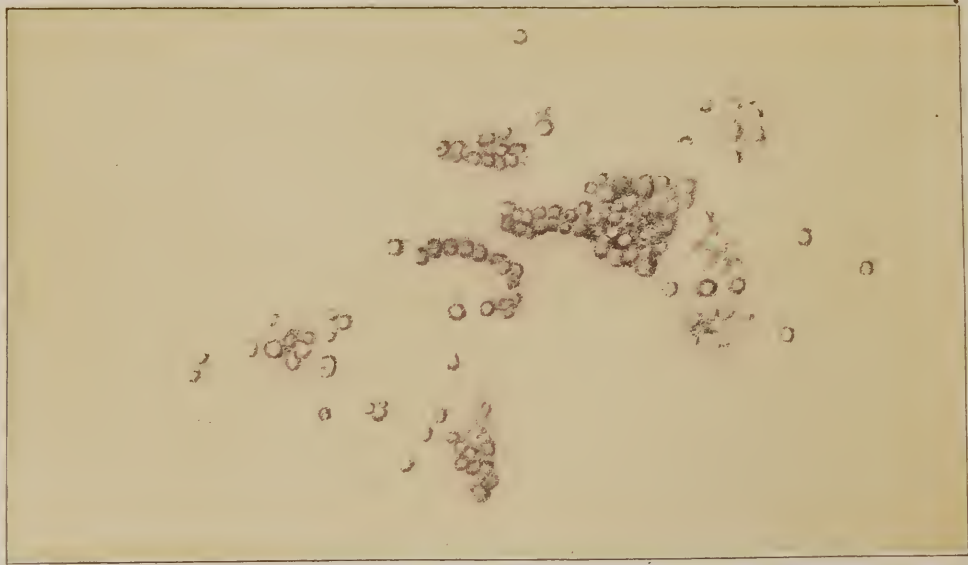






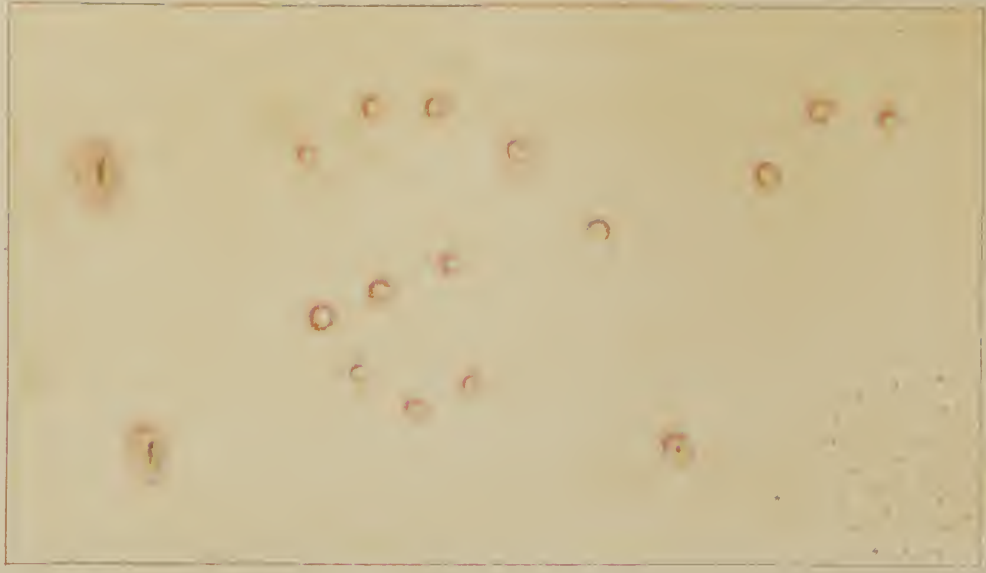
VESICULÆ.

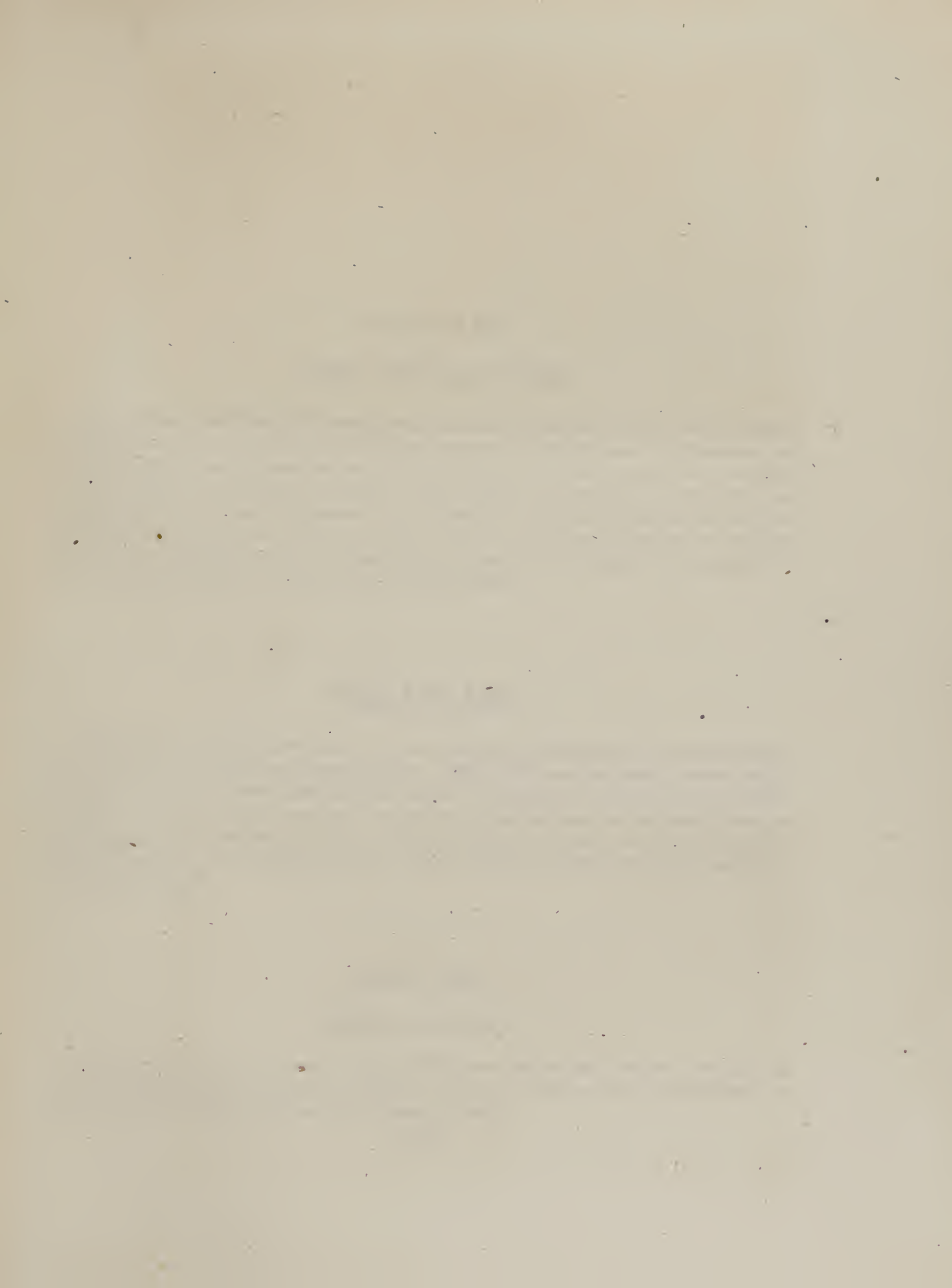
*Herpes Venereus.*

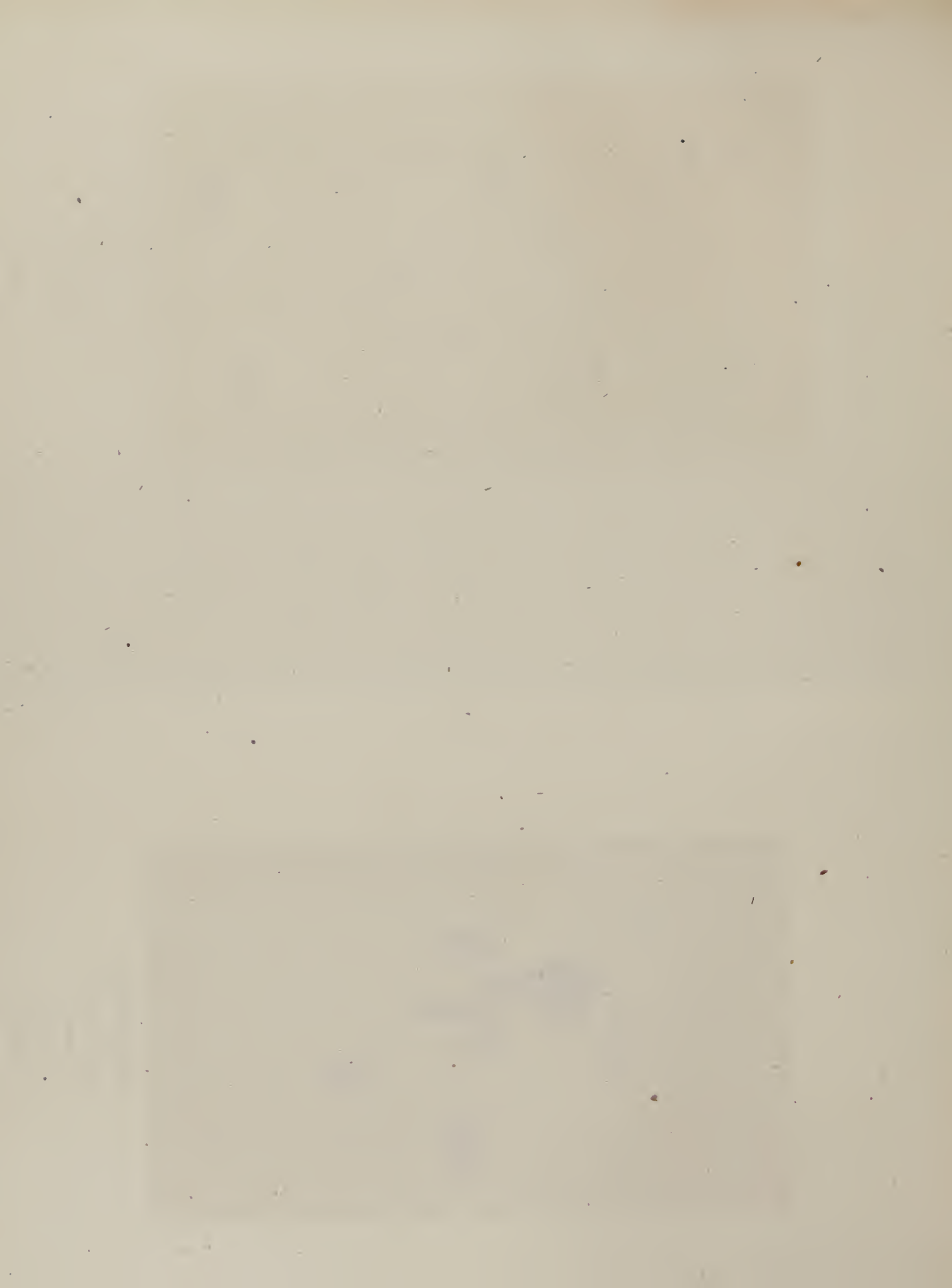


PAPULÆ.

*Large vesicular Lichen*







## PLATE XXI.

### LARGE VESICULAR LICHEN.

THE patient from whom this drawing was taken, had an eruption of large vesicular lichen, elevated more than a line above the surface, set upon a vascular base. On his back they were the largest, and disposed in rows, containing about three each. Others, less prominent, were arranged in the form of a crescent. The larger ones, chancing to be on the skin covering superficial bones, suppurated. In the folds of the prepuce are marks of three recent sores, and the remains of a fourth with much hardening. The inguinal glands are enlarged. On the lower left hand corner of the plate, may be noticed the eruption in the progress of cure, each spot reduced to about the size of a pin's head.

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## VESICULÆ.

THIS order is placed after papulæ, as it often happens that lichen may be a vesicular disease. Vesicles are often the sequel of lichen. They contain a clear watery serum, which has had the effect to elevate portions of the cuticle. The general character of all vesicular eruptions is such as I have described; but as the disease advances in its progress, the enclosed lymph of the vesicles acquires a considerable degree of opacity, and might almost be deemed purulent. The eruptions appear to consist of Herpes solitarius, H. confertus, H. circinatus, and Rupia.

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## PLATE XXII.

### HERPES VENEREUS.

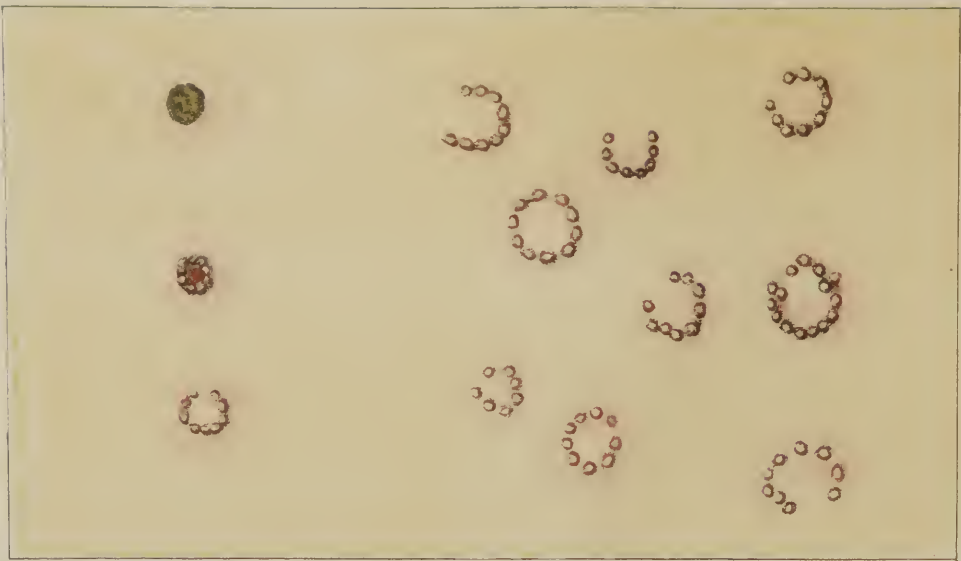
In this plate may be seen three varieties of Herpes — the isolated vesicles form what is called solitarius; those in patches, form the variety of confertus; and those disposed to take the annular arrangement, are the circinatus variety.







Order III.  
VESICULÆ  
*2 Herpes circinalis Ven.*



Order III.  
VESICULÆ  
*Rupia prominens ven.*









## PLATE XXIII.

### HERPES CIRCINATUS.

AFTER sexual intercourse, the subject of this plate had, on the penis, a little circle of vesicles, such as appear on the upper row of the plate. The dark colored spot was the first herpetic centre, and is seen as it looked covered with a scab. This degenerated into a small ulcer at the end of a few days. The other rings soon disappeared by concreting and drying off. The ulcer healed readily. Ten weeks from the period of infection, he complained of a sore throat, which was covered with a diffused rose-colored redness. Shortly after a mottled redness came out on the skin from head to foot, accompanied with feverishness. The eruption afterwards put on the character of the puniceous patch, and ultimately a concentric eruption of small vesicles, as seen in the lower part of the Plate. The glands at the back of the tongue enlarged, and there were superficial circular ulcerations in the throat and fauces. He had stiffness in the right leg, and pains in the left ankle. Six months elapsed before this patient completely recovered. He was treated entirely without any of the mercurial preparations.

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## PLATE XIV.

### RUPIA PROMINENS.

THE subject from whom this drawing was designed, was a strong and healthy man. Some days after connexion with a woman of the town, vesicles made their appearance on the dorsum of the penis, which gradually extended and became a foul sore. The glands of the groin suppurated. About six weeks after contamination, he was attacked with superficial ulceration of the left tonsil, swelling of the uvula, and sloughing of the posterior nares. The tonsils soon after ulcerated deeply, and threw off ash-colored sloughs. His body and limbs at the same time were covered with straw-colored vesicles, very similar to the

primary sore. [*See Figures 1, 2, 3, of the Plate.*] A few days afterwards, his legs and thighs presented many dark conical scabs, as large as dimes. [*See figure 5.*] When one of these crusts fell off, it exposed a large foul ulcer, the size of a half-dollar, which began to granulate from the centre. [*See figure 6.*] Some of the smaller scabs, left, when they fell, a sound base, marked by a deep rose-colored stain. [*See figure 7.*]

Three months after contamination, the rupia had nearly gone, when an eruption of tubercles appeared on his face and forehead.

Five months from the onset of the primary disease, the patient had quite recovered — having, in the time, had a second eruption of tubercles and pleuritis.

This patient was cured without the use of mercury.



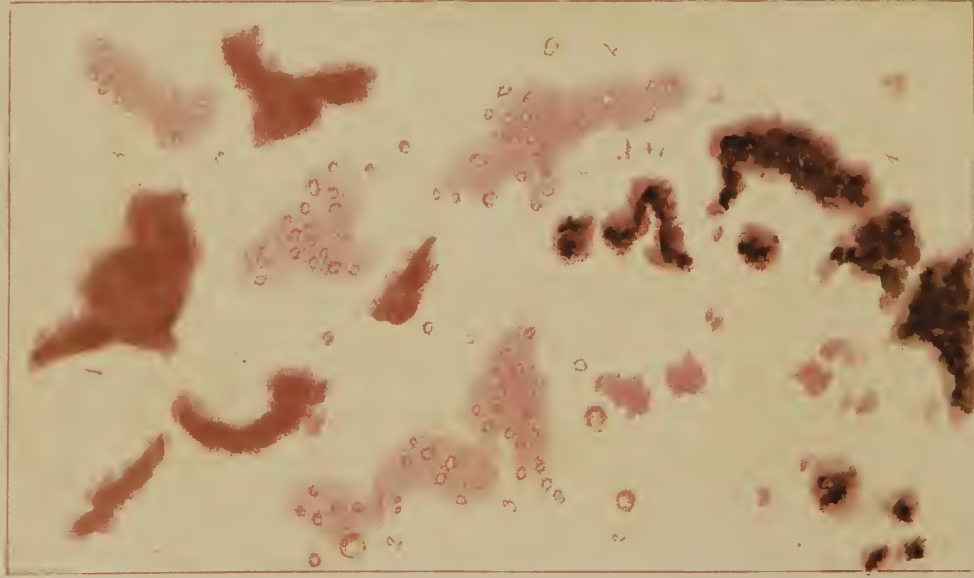


P. XIV.

PUSTULÆ

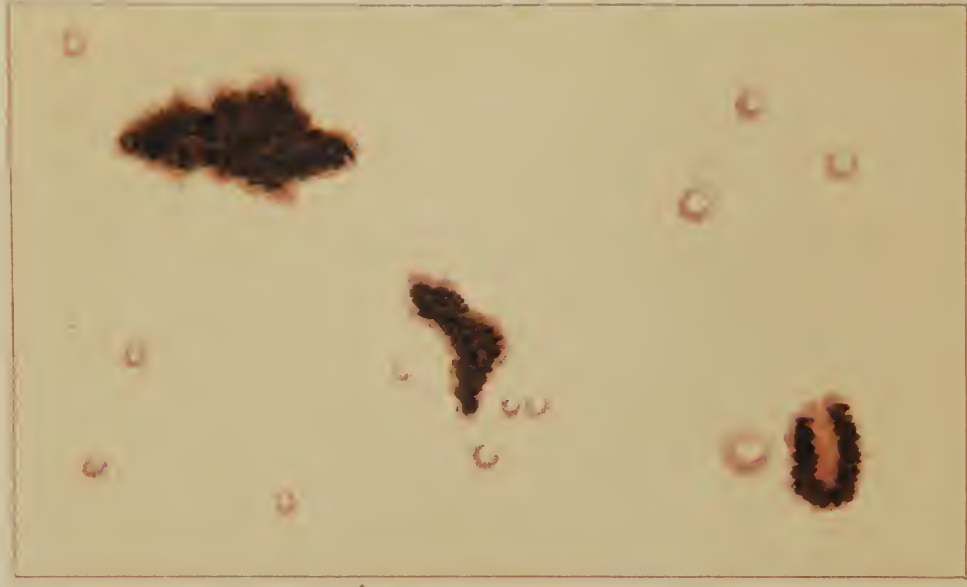
x<sup>8</sup>

*Clustered Lichen.*



P. XIV

*Uredo II.*  
PUSTULÆ.  
*Bethymia.*







## PUSTULÆ.

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### PLATE XXIV.

#### ECTHYMA VENEREUM.

THE general description of Ecthyma is thus rendered by Willan: "An eruption of the inflamed pustules, termed phlyzacia, usually distinct, and arising at a distance from each other. It is commonly indicative of some state of distress under which the constitution labors, and though it is not attended with actual fever, yet a degree of general irritation or erethism is often present with it." The venereal form of it, appears to be accompanied with more constitutional disturbance and fever than the common form. The inflammatory action runs high. About the same time that pus is secreted in the centre of the pustule, the cuticle is gradually separated as the distention increases, and is raised into a conical shape. In persons with a languid circulation, very large portions of the skin are frequently seen of deep crimson or chocolate brown color; and when the first eruption of ecthyma is gone, it is not unusual to see almost the entire skin of the leg and shin covered with these frightful dusky red stains, marked by numerous dots, depressions, and loss of substance, the excavation being filled by sloughy cellular membrane. [*See the Plate, showing the most ordinary appearance displayed by this affection*].

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### PLATE XXV.

#### ECTHYMA VENEREUM: CLUSTERED LICHEN.

THE patient from whom this drawing was made, had a pimple on the penis near the pubes, three days after intercourse with a prostitute. He was also affected with urethritis. In a few days the sore healed, and the discharge from the urethra ceased.



Fourteen weeks after the infection, he had ecthyma phlyzadium covering him, *a capite ad calcem*. On the arms and legs, the pustules were largest. There was hoarseness and an ulcer in the throat. In about a fortnight the eruption began to decline. A few large lichen came out here and there on the body.

When the first ecthymatous eruption had passed away, a large part of the person was covered with dark red, or chocolate-colored stains, as seen in figure 1 of the plate.

This eruption was succeeded, on the healthy portions of the skin, by a few very small and flat pustules of ecthyma psydracium venereum, having little or no areola. [See plate, figure 2].

Afterwards, a fresh eruption of middle sized lichen appeared, in groups. [See plate, figure 3]. At this time might be seen the chocolate-colored stains of the first, the straw-colored pustules of the second, and the red lichenous patches of the third eruption, all at one view upon the skin.

This patient had, during the progress of the disease, nocturnal pains, and dropsical effusions. He was cured without the use of mercury, but he took the iodide of potassium.

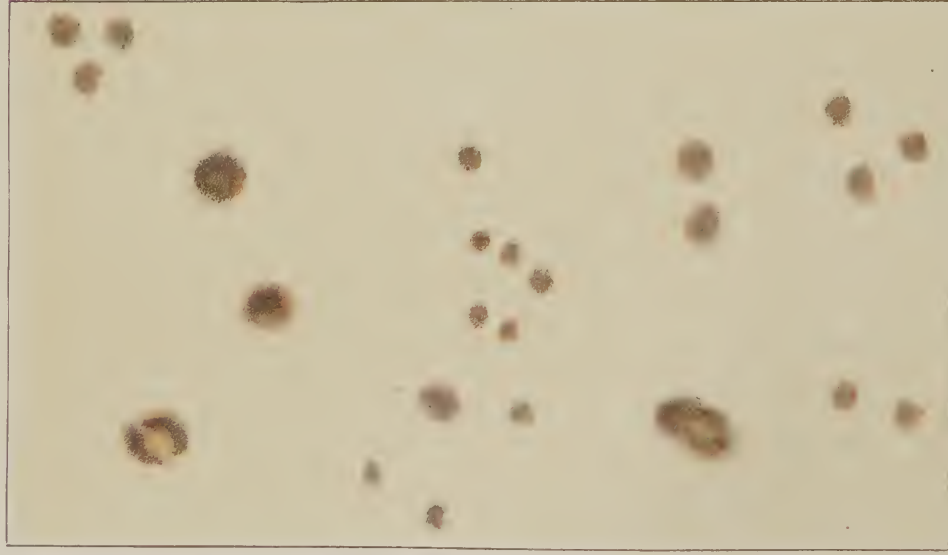


P. XXVII.

Order I.

MACULÆ.

*Coccinea macula or Copper spot.*

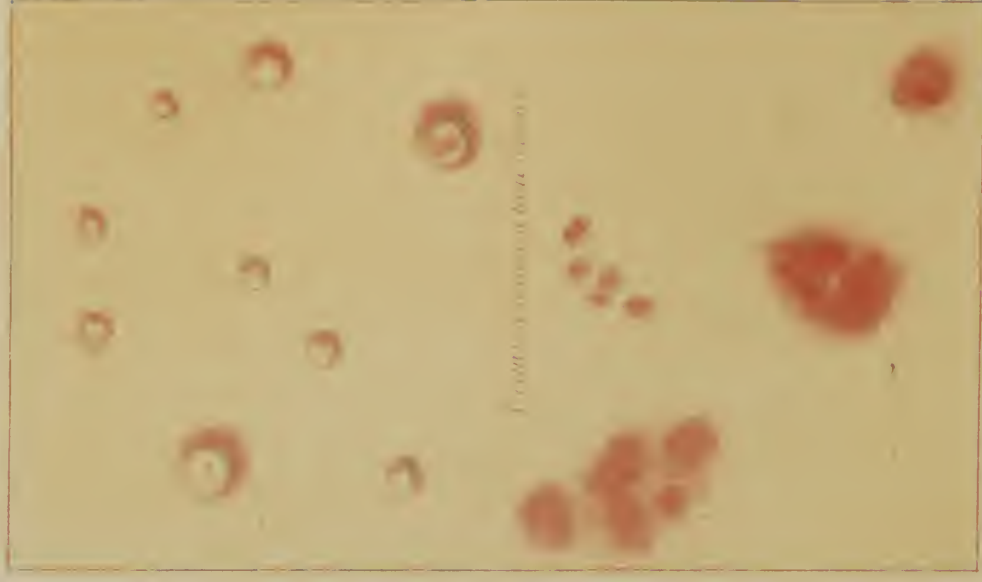


P. XXVII.

Order II.

PUSULE, &c.

*Large Pustules.*









## PLATE XXVI.

### LARGE ECTHYMA.

THREE days after connexion, the patient who furnished the original for this plate, observed a redness on the prepuce. In a few days the inflamed spot became the base of a pustule, which shortly afterwards ulcerated. The glands of the groin swelled and suppurated. For this condition, he took mercurial pills and used a large quantity of mercurial ointment. His gums were kept sore for nearly three months. After this treatment, he remained well for two years. Without having had, in the interval, intercourse with any person except his wife, who was free from disease, he was attacked with an ulcer on the right tonsil, an enlargement of the right submaxillary gland, and an eruption of large ecthyma, which came out, as he states, slowly, first on the face, next the scalp, then on the legs, and afterwards on the body, followed by considerable disturbance of health and some fever. An extensive slough formed in the throat, and the pustules became so numerous that the case looked like small-pox. The eruption continued to come out during three weeks. [*See the plate*].

At the end of two months the ecthyma had cicatrized. Ten weeks afterwards, preceded by fever, a new eruption of crimson blotches, or spili cruentati, as large as sixpences, rather less circular than usual, appeared all over him, coming out gradually. [*See the plate, figure 2.*] In a few days the blotches assumed a coppery hue, and were much diminished in size. It is unusual for crimson spili to follow ecthyma — they commonly show themselves first in the order of eruptions.

The secondary disease was treated without mercury, and perfectly cured.

---

## MACULÆ.

UNDER this head are arranged those affections of the cutaneous tissue, which are distinguished by discoloration of the skin. The seat of these alterations is the rete-mucosum, and the papillary layer of the dermis.

This order contains three varieties. 1. Spili Coccinei. 2. Spili Cruentati. 3. Spili

*Cuprei.* The two first, towards their termination become copper-colored, and resemble the last. They are of a decidedly crimson color; their figure is oviform and constant — varying in size from a pin's head to that of a Windsor bean, slightly raised above the surrounding surface, and containing red lymph. The painted-like appearance of the eruption remains bright about a week; it then gradually declines, each crimson macula becoming copper-colored and somewhat diminished in circumference. In about a fortnight the skin generally begins to recover its natural hue; and a little prior to that period a slight depression is commonly evident; while, on the contrary, puniceous patches leave a considerable rise.

The *spili coccinei* and *cruentati* do not occur after syphilitic contamination near so often as puniceous patches. Other secondary symptoms but seldom follow this eruption.

*Spili cuprei* differ very considerably from the former varieties, being of a yellow color from the commencement. Nor do they come out at once like those just described; on the contrary they appear slowly and singly, are very long in forming, more slightly raised, and frequently becoming confluent, form copper-colored patches as large as the palm of the hand. They seem to be produced by some organic change in the rete-mucosum, and are very permanent, at times lasting for years, appearing to be little or not at all affected by the longest courses of mercury.

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## PLATE XXVII.

### SPILI COCCINEI.

THE patient from whom the drawing on this plate was taken, had, the seventh day after intercourse, two small level sores on the penis; he also had urethritis, which made its appearance on the eighth day. Under treatment, which comprised mercury, he got pretty well. He had afterwards a relapse; a swelled testicle, a bubo that suppurated, with enlarged inguinal glands on the other side. At the end of five months from the period of infection, an eruption of crimson maculæ came out over his body and limbs, mostly of a circular form, and some as large as sixpences. [*See plate.*] In the course of twenty days the eruption had vanished without leaving any marks behind. A little mercurial ointment was employed in the last instance.\*

\* The coloring of this plate should have more of a crimson color, and it is wrong to call it, as is done at the head of the plate, the *copper spot*.



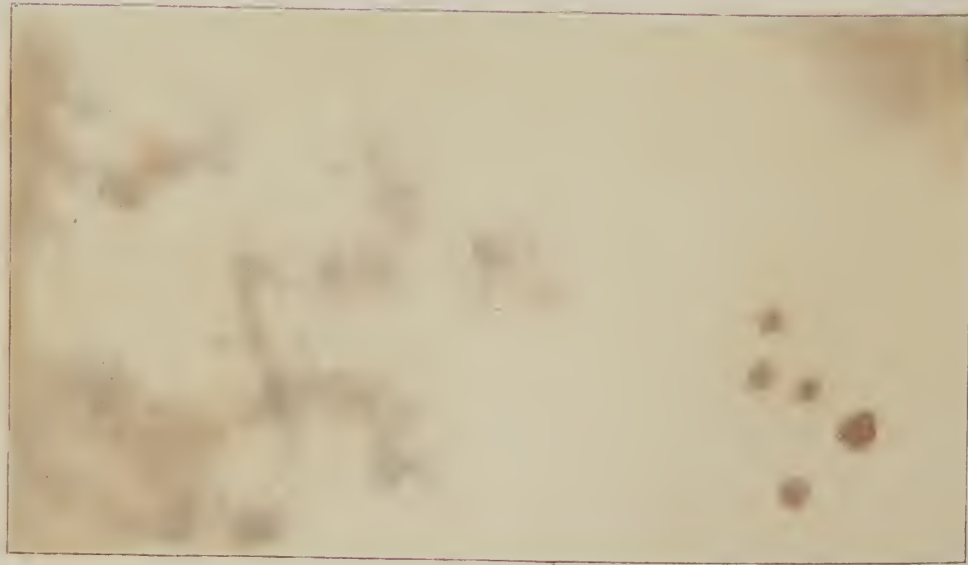


P. XXIX.

Order VI.

MACULÆ.

*Spily or Copper Stains.*

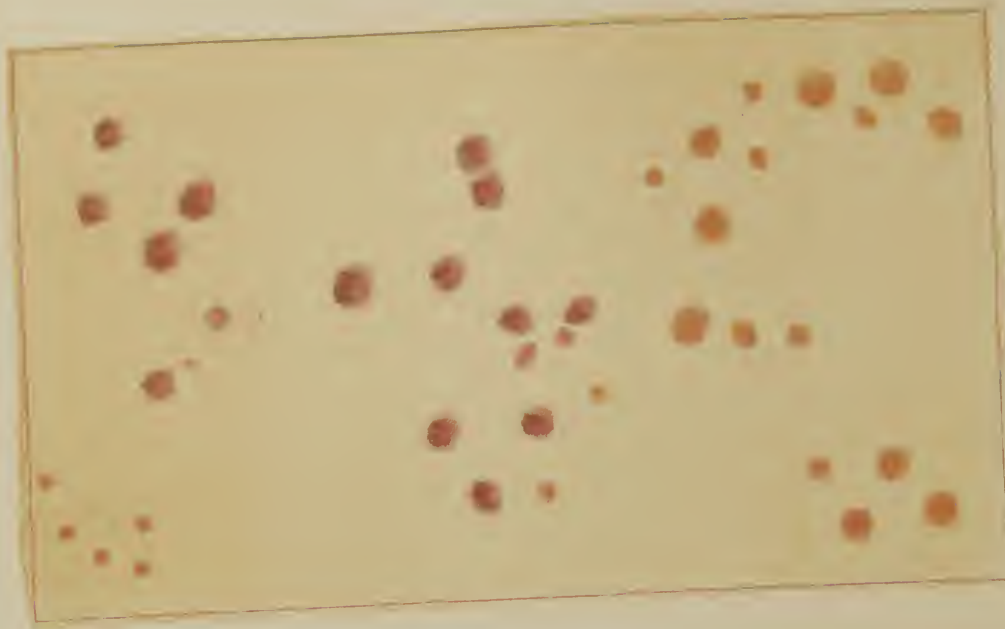


P. XXVIII.

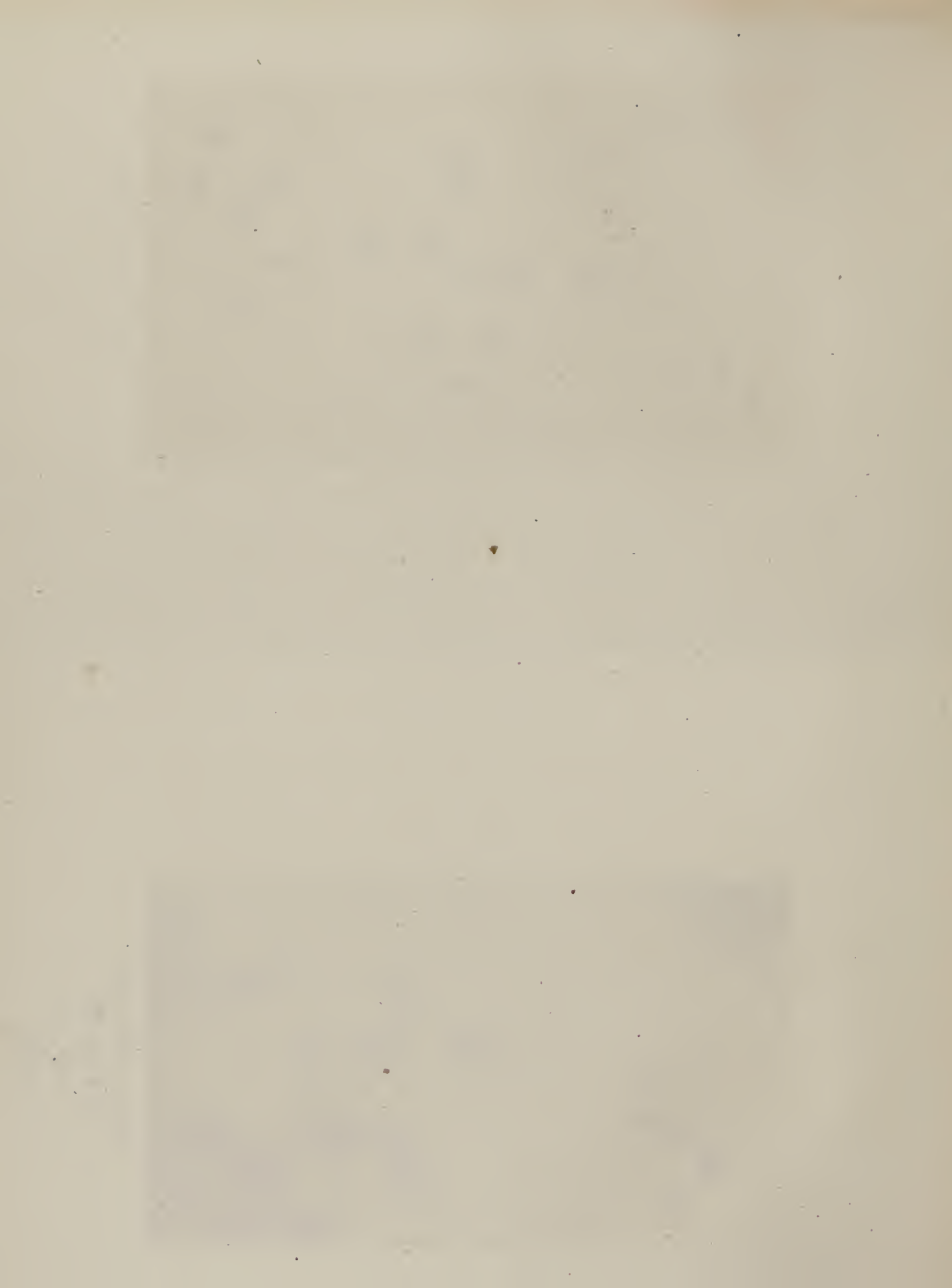
Order VI.

MACULÆ.

*Mercurial crimson Spots.*







## PLATE XXVIII.

### SPILI CRUENTATI.

THE subject furnishing this eruption, had a sore upon his penis, which he healed with sugar of lead water. Ten weeks afterwards he had an eruption all over his body and limbs, but none on his face. Each spot was of a deep crimson color, of an oviform shape, from the size of a pin's head to that of a pea. They were slightly raised upon the level of the skin, but were flat upon the surface. [*See the upper part of the plate.*] It was ushered in with fever. In about seven days the spili assumed a copper-color. [*See the lower part of the plate, representing their declining stage.*] In two weeks more all marks had disappeared. This case was treated with mercury.

---

## PLATE XXIX.

### SPILI CUPREI.

THE patient from whom this drawing was taken, was attacked, three weeks after connexion, with enlargement of the glands in both groins, which went on to suppuration. Eight weeks later a small sore on the penis began to make its appearance, and looked merely as if the patient had rubbed the skin off. For a long time it resisted every attempt at cure, and, after healing several times, broke out again. When it finally healed over, much induration was left. He took mercury and his mouth was kept sore for four weeks.

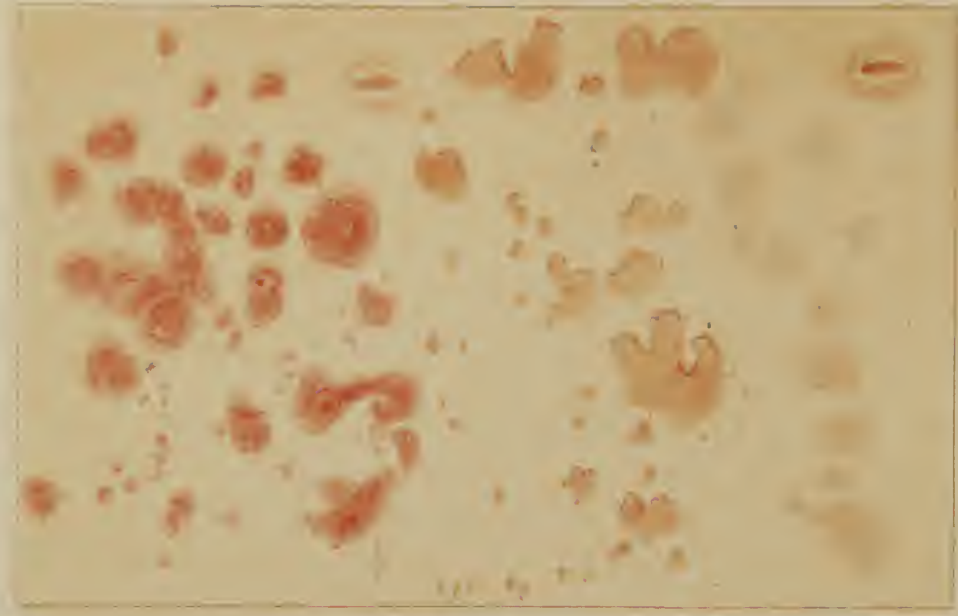
During the time his mouth was affected by mercury, a slight crop of ecthyma appeared on his shoulders and back. This eruption was removed, but from irregularity in living, his groins again supplicated. He neglected all treatment.

Fifteen months after the primary attack, he returned for medical advice, with five or six sinuses in the groins, discharging thin unhealthy pus. The lacuna where the abrasion on the penis had been seated, was red and pouting. His general health seemed good. Shortly after, copper-colored stains showed themselves on the skin of the lower part of his neck, breast and shoulders. They came out, few at a time, in various forms; some as single spots, others coalesced in groups. [*See the plate.*] The induration was still unabsorbed. He was treated again with mercury: the groins healed and the disease was at length arrested; but two years afterwards, although in good health, the spili cuprei remained visible.















## TUBERCULÆ.

THE chief characteristics of the syphilitic varieties of Tubercles, are, that they consist of considerably raised and inflamed masses, of a crimson color — that they are permanent during weeks or months — at times suppurate, though very slowly, or they subside gradually. Two varieties are presented : — 1. *Phymatosis ovata*. 2. *Phymatosis annulata*.

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### PLATE XXX.

#### PHYMATOSIS OVATA.

A patient had sexual intercourse with a woman of the town, and, ten days afterwards, observed a small spot, not larger than the head of a pin, on the inside of the prepuce, looking as if the cuticle was slightly abraded.

A few days after, the sore had become deeper, and pus formed on it. It continued to grow worse, and looked sloughy for three weeks, although the patient was under the mercurial remedies. Ten weeks from the time of commencing the treatment, the sore had cicatrized, leaving no induration. His mouth had been kept sore for four weeks.

Two months from this time, he began to feel unwell ; he had pains in his shoulders and shins. A puniceous eruption broke out all over him, accompanied by a sore throat and redness of the fauces. In twenty days more this was succeeded by an eruption of tubercles, which were raised slightly above the general surface, of an ovoid form ; the base of each was surrounded by some inflammation. He had also iritis. [*The top of the plate shows the appearance of the tubercles*].

In about six weeks the eruption had so far subsided, that it had become of a copper-color, or sort of yellowish-brown, as shown in the lower part of the plate, which did not wholly disappear for several months.

The general treatment was with the preparations of mercury.

## PLATE XXXI.

## PHYMATOSIS ANNULATA.

THE person from whom this drawing was taken, denied having ever had venereal, but her habits of life were strong evidence against her. On the first application for advice, she had a peculiar eruption, which had continued for many months, about the eye-brows, on the back of the neck close to the hair, and on the shoulders and arms. She had also sore throat, and had had iritis, which had yielded to mercury.

Tubercles made their appearance of this variety, which is scarce; their color was dark red, considerably elevated, of a circular form, looking as if they contained a red-brown fluid, each patch being about the size of a half-dime, several tubercles developed on the same base, disposed in circles, and raised the fourth of an inch above the surface. Those seen in the upper left corner of the plate were situated on the back of the neck; those marked 2, on the face and neck, and those marked 3, at the bend of the arm. The patient was treated with mercury and sarsaparilla, which did not seem, after a long trial, to be of any service. The tubercles at length suddenly disappeared, apparently spontaneously.



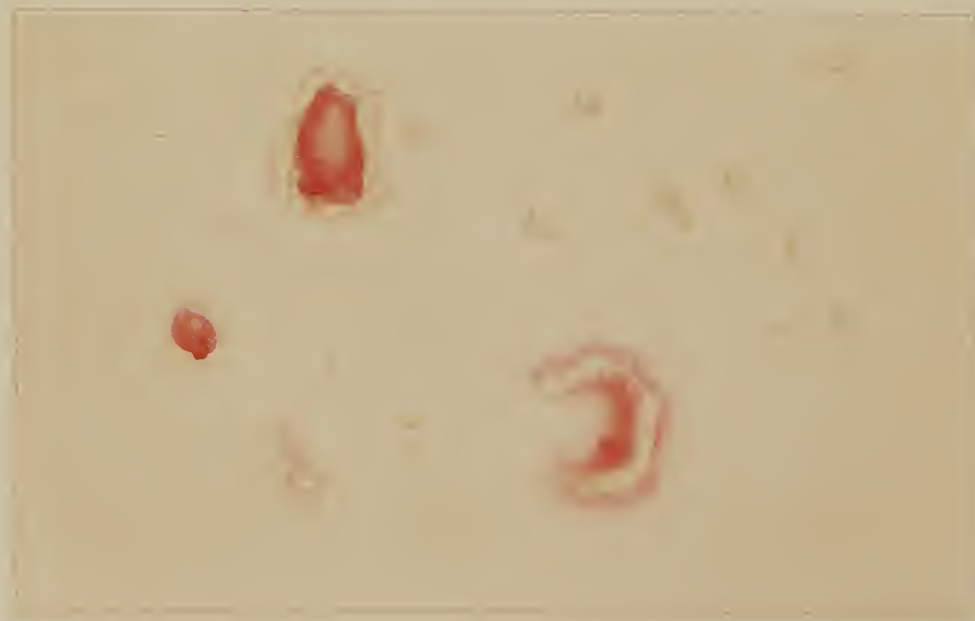


P. XVIII  
 Pl. III  
 SQUAMA

*Lepidosteus*



P. XIX  
 Pl. III  
 SQUAMA  
*Lepidosteus*







## SQUAMÆ.

SQUAMOUS disease is especially characterized by inflammation of the dermis, and by the production of abnormal epidermis, in the form of thin laminæ, or scales. I shall notice two varieties: Lepra and Psoriasis.

---

### PLATE XXXII.

#### LEPRA VENEREÆ.

THIS is an eruption which makes its appearance in different parts of the body, of raised and circular patches, which are soon covered by thin, semi-transparent, quadrangular scales of white and morbid epidermis. The patches are prominent around their circumference, and somewhat depressed in the centre; they increase by the extension of their periphery, while the central area gradually returns to the natural state. [*See plate.*]

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### PLATE XXXIII.

#### PSORIASIS VENEREÆ.

THE patient who furnished the subject for this plate, had a small vesicle on the glans penis, a few days after connexion with a woman of the town. Three days from the time of its appearance it broke, and the part around it had begun to indurate, and a gland in the groin was swollen. Mercurial frictions were used, and his mouth kept tender for a month. The chancre had healed at the end of two weeks, and the bubo subsided without suppuration.



Six months from the commencement of the primary disease, the skin of the head, body, and limbs, was covered with an eruption of psoriasis, in large oval and round patches, from the size of a dime to that of a half-dollar. The irritation of the scalp was so great as to cause suppuration of the sub-maxillary glands. The patches continued to enlarge, until some of them attained the size of the palm of the hand. Sulphur in different forms, was administered, with sulphuret of potassa, producing some improvement, but without any very decided benefit. The eruption now assumed the form of concentric patches, the skin within the circle becoming daily more healthy. [*See the plate.*] The compound calomel pill, and the decoction of sarsaparilla was next tried, with better effect. At the end of three months, the eruption had disappeared, and the patient was well.

# INOCULATION.

IN the course of the remarks that I have made, in the previous portion of this work, I have frequently spoken of the utility of inoculation, in deciding upon the true syphilitic character of disease. When error is properly and carefully guarded against, it is a method which may be pronounced almost infallible, and its great importance, both in the treatment of the affection, and in settling medico-legal questions in cases which sometimes arise, will be apparent upon the slightest reflection.

M. Ricord has pursued this subject with great judgment and enthusiasm, at the Venereal Hospital of Paris, where his opportunities have been most ample for conducting experiments. He has done science great service by the new light that he has thrown upon the nature of venereal affections. The following table, that I have borrowed from his work, is an analysis of experiments made by him, between the years 1831 and 1837. It possesses much interest.

## A TABLE OF THE INOCULATIONS

MADE IN THE MALE WARDS.

### SYMPTOMS WHOSE PUS PRODUCED THE CHARACTERISTIC PUSTULE.

#### PRIMARY SYPHILIS.

Chancres in the ulcerative or progressive period—	CASES
On the penis . . . . .	347
At the anus . . . . .	9
Concealed in the urethra (larve) . . . . .	21
On the lips . . . . .	3
In the throat . . . . .	1
On other parts . . . . .	8
Primary pustules—	
On different parts consequent on coition, on the inner parts of the thigh, or from artificial inoculation . . . . .	59
Virulent abscess, or encysted chancres—	
In various situations . . . . .	18

Symptomatic lymphitis, or chancres in lymphatics—	CASES.
Inoculated on the day of their being opened, or later . . . . .	11
Symptomatic bubo, or ganglionic chancres—	
Inoculated the day they were opened . . . . .	42
“ “ following day* . . . . .	229

## IN THE FEMALE WARDS.

## PRIMARY SYPHILIS.

Chancres in the ulcerative period—	
On the vulva . . . . .	139
“ vagina . . . . .	2
“ cervix uteri . . . . .	12
Concealed . . . . .	6
At the anus . . . . .	28
On the lips . . . . .	4
In the throat . . . . .	2
In different parts . . . . .	6
Primary pustules—	
On various seats consequent on coition; on the internal surface of the thigh, or from artificial inoculation . . . . .	27
Virulent abscess, or encysted chancre—	
In various situations . . . . .	8
Symptomatic buboes, or ganglionic chancres—	
Inoculated upon the day of their being opened . . . . .	21
“ “ the following day or later . . . . .	46

## IN THE MALE AND FEMALE WARDS.

## SYMPTOMS WHOSE PUS PRODUCED NOTHING.

## SYMPTOMS OF TRANSITION.

Chancres in the period of reparation . . . . .	62
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## SECONDARY SYPHILIS.

Mucous tubercles, or pustules in various parts . . . . .	221
Secondary ecthyma . . . . .	10
“ rupia . . . . .	9
Ulcers (consequent on mucous tubercles, ecthyma, rupia, or impetigo)—	
In the nasal fossæ . . . . .	19
On the lips . . . . .	14
“ palate . . . . .	4

\* Of these latter, 214 had been inoculated without result on the day of the opening.

## 207

## TERTIARY SYPHILIS.

VENEREAL AFFECTIONS, NOT DEPENDENT ON THE SYPHILITIC VIRUS.

NON-CHARACTERISTIC SYMPTOMS WHICH SHOW THEMSELVES AFTER VENEREAL AFFECTIONS,  
WHETHER SIMPLE OR VIRULENT.

AFFECTIONS NOT DEPENDENT ON VENEREAL DISEASES.—COMPARATIVE EXPERIMENTS WITH  
NEGATIVE RESULT.

Atonic ulcers of the legs	6
Simple ecthyma	5
Herpes	4
Scorbutic ulcers	2
Scrofulous	6
Caries	4
Simple ulcerated stomatitis	8
Ulcerated eczema intertrigo	2
Otitis	2
Cancer of the uterus	5
“ “ rectum	6
“ “ breast	2
“ “ penis	3
“ “ nose	4
Abscess on various parts	15



## PLATE XXXIV.

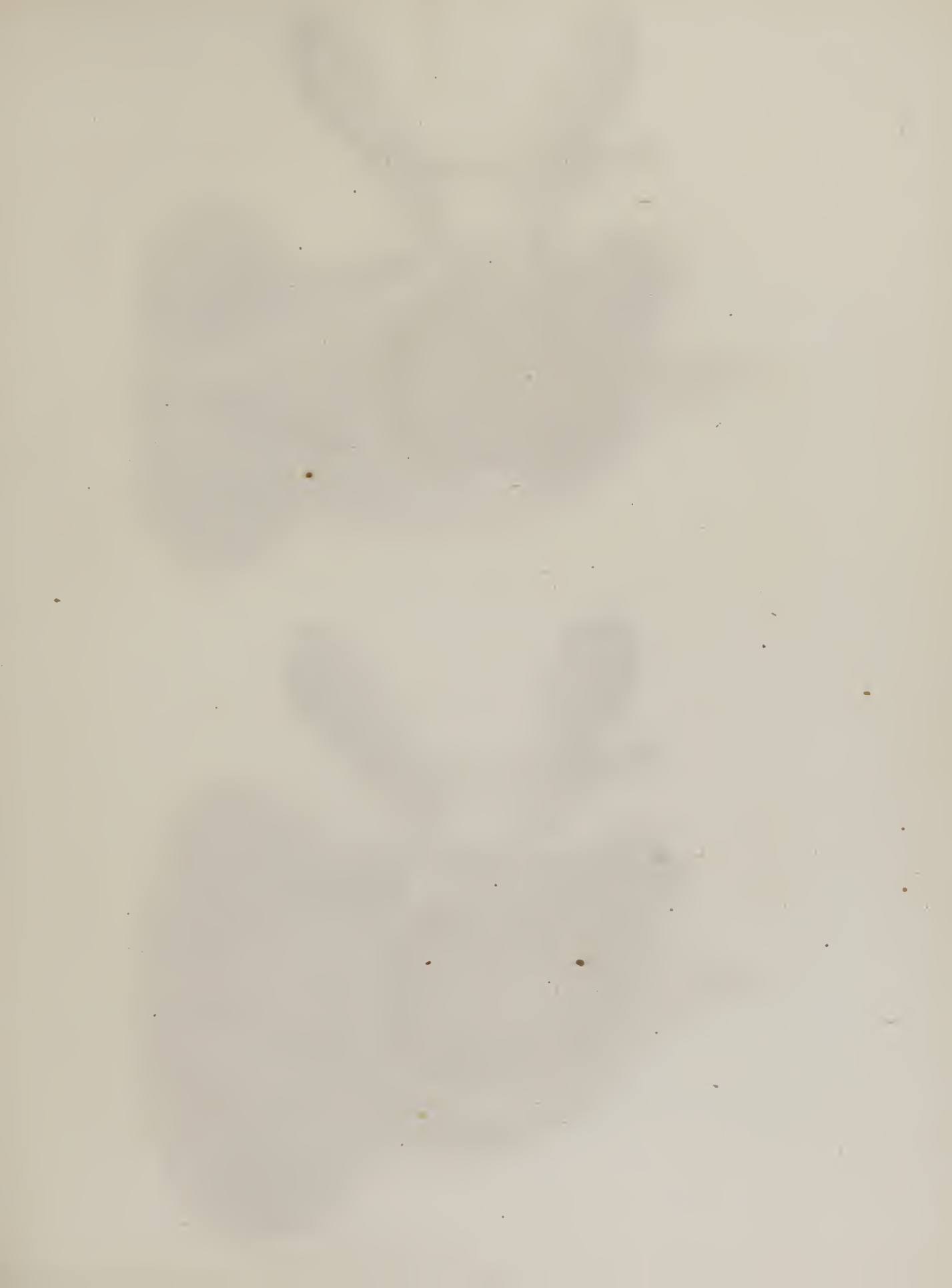
### FIGURE 1.—EXCORIATIONS.

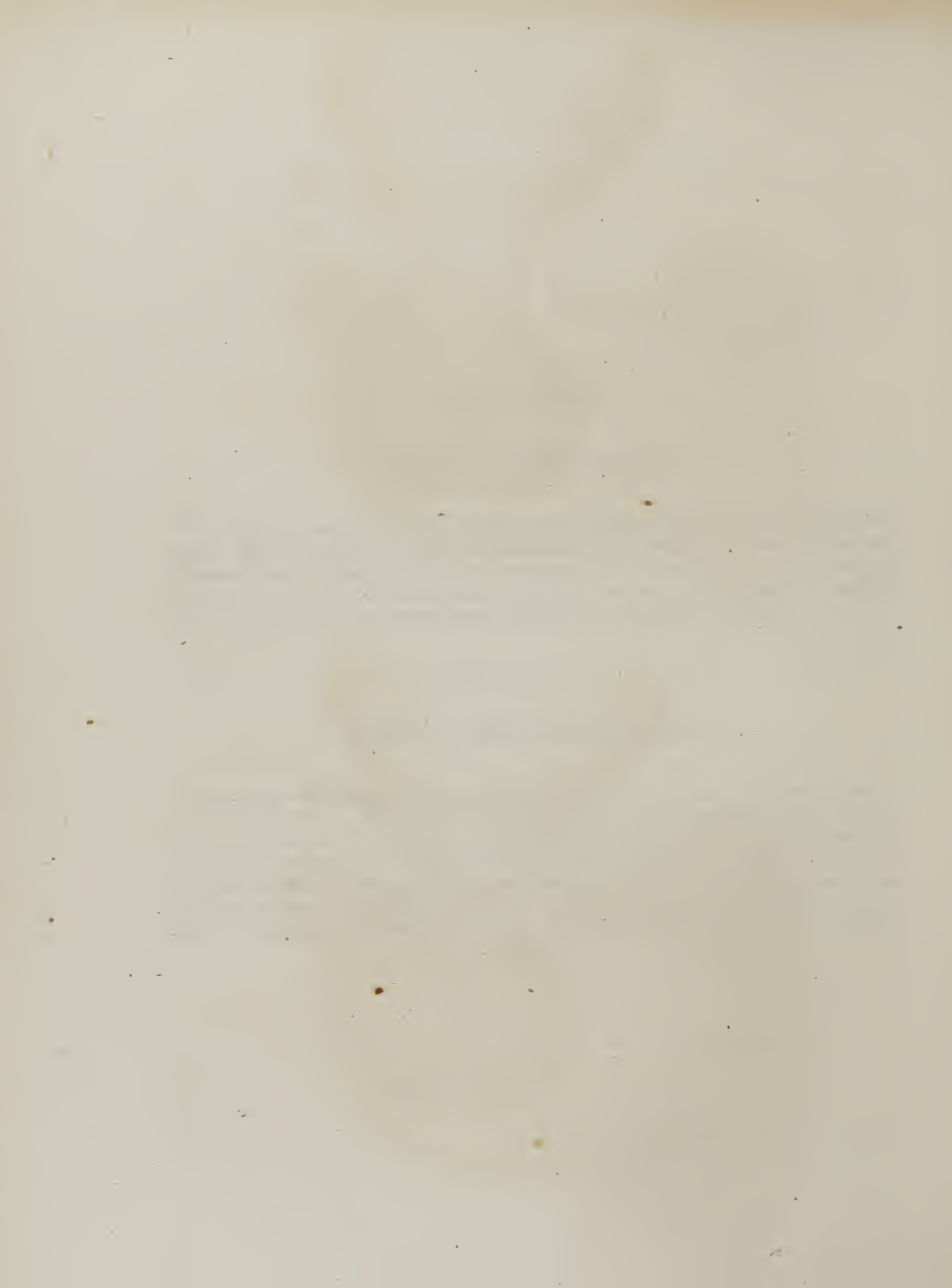
THE subject of this drawing had suffered many months from a greenish purulent discharge. She was a married woman, and attributed it to a disease which her husband had contracted about the same period. The introduction of the instrument was not attended with much pain. The characters of the excoriated condition of the epithelium, and the color of the secretion, show the analogy which it bears to balanitis in the male.

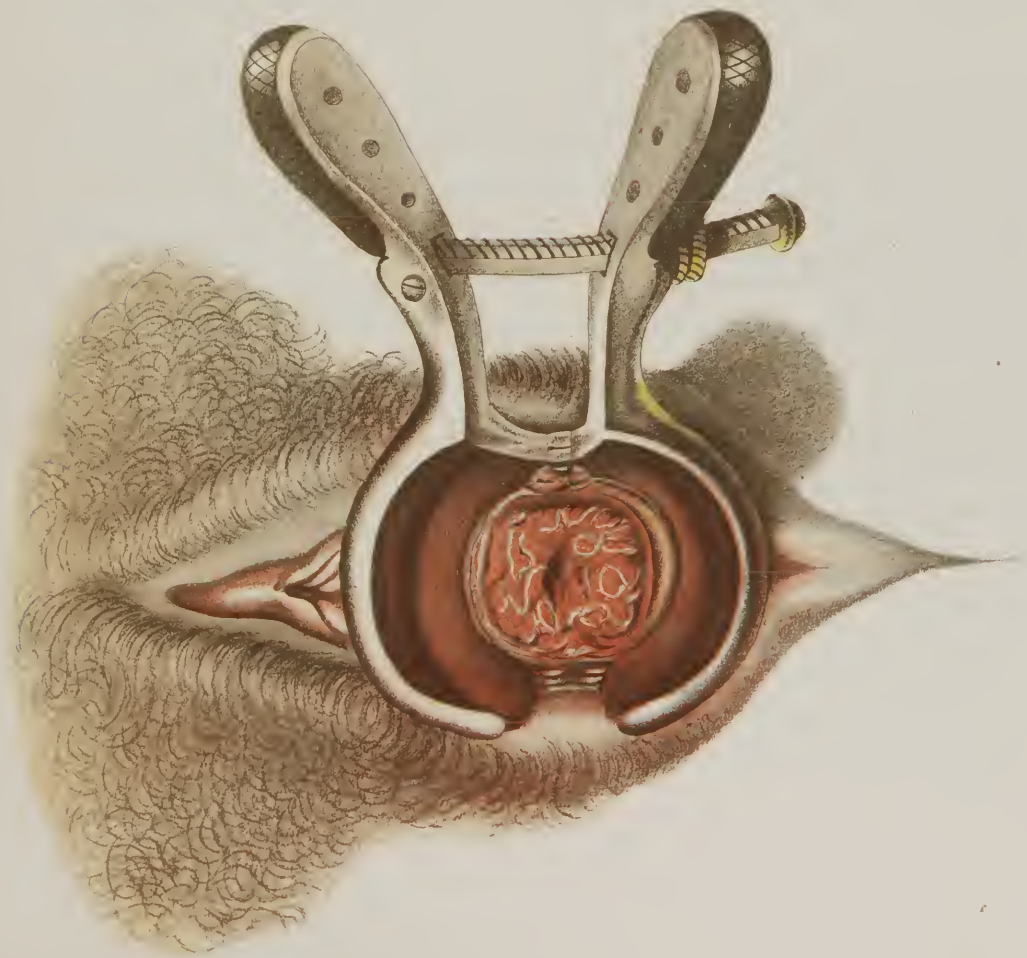
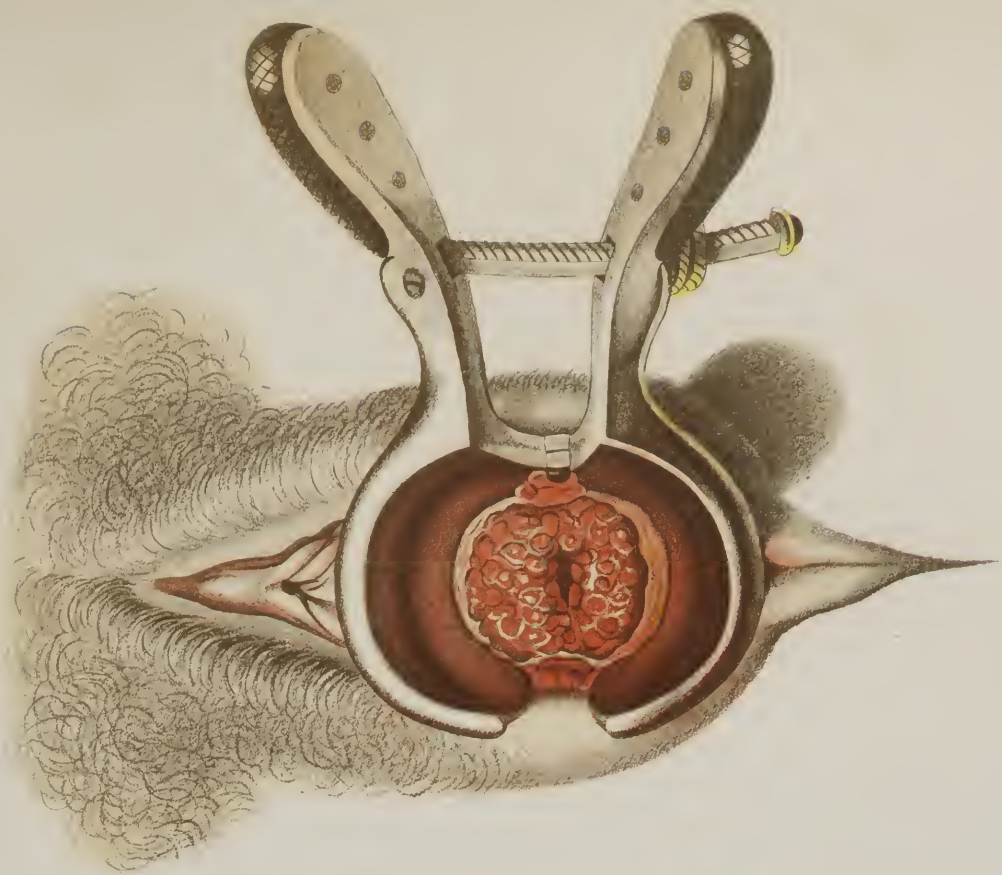
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### FIGURE 2.—GRANULAR CONDITION.

THE granular appearance of the os uteri and vagina, is a very marked instance of what is often to be met with in the hospitals. The subject of it was a very stout female servant. She stated that a discharge from the vagina had appeared eight months previously, and had continued to increase. The introduction of the instrument was very painful. The secretion was purulent, of a green color, of the consistence of cream, and so abundant that it ran out of the speculum. The analogy between this disease and the granular condition of the conjunctiva, in chronic affections of that membrane, cannot escape the notice of the surgeon.











## CHAPTER XIII.

### GONORRHŒA.

ITS definition.—Its synonyms.—Its antiquity.—May be produced by a leucorrhœal discharge.—Until lately regarded as a variety of syphilis.—May be complicated with syphilis.—Difference in the liability of individuals to contract it.—The matter will retain its infectious character for a long period.—Cases.—Varieties of the disease.—Symptoms of the disease, in the male, in the first, second, and third stages.—Prognosis very difficult.

GONORRHŒA is the name most generally given to the second order of venereal affections, now considered by the highest authorities non-virulent. The name, though certainly false in its original signification of a flow of semen, is yet the one adopted by general usage, and is no more objectionable than a hundred others. The names of *Blenorrhœa*, and *Blenorrhagia*, have been adopted by recent writers, but there seems to be no great necessity for such a nicety of terms where the disease is so well known; though perhaps less understood than it ought to be.

We may trace the existence of this species of venereal disease, as far back into antiquity as our researches can extend, and there seems to be no doubt that it is an affection to which the human race has always been liable; having its origin, generally, in an unhealthy secretion from the female uterus or vagina. That an undoubted gonorrhœa may arise in the male from contact with a leucorrhœal discharge in the female, is a fact commonly recognized in the profession. Some have supposed that it may be developed spontaneously in the male subject, under certain circumstances of hardship and exposure, but this I greatly doubt. It may be deemed one of the curiosities of medical science, that gonorrhœa was for a long period, by

eminent men, considered as but a modification of syphilis, and treated accordingly. But it has, latterly, been demonstrated to be a strictly local disease, confined to the mucous membrane, and affecting, by irritation and sympathy alone, the surrounding tissues.

It may be complicated with syphilis — both may be contracted at the same time, or either one during the progress of the other. Syphilis has undoubtedly often been mistaken for gonorrhœa, from the presence of chancre in the urethra; and in this case the syphilitic ulceration has produced a purulent discharge from the mucous membrane, which was followed by secondary symptoms. But in no instance has the matter of simple gonorrhœa given rise to chancre; and in no instance have secondary symptoms followed such an affection.

Gonorrhœa may be defined as an inflammation, more or less acute, of the urethra, or other parts of the genito-urinary passages, accompanied by the secretion of a muco-purulent fluid, of a yellow or greenish appearance, accompanied with pain, itching, or irritation in voiding the urine, and, in the male, frequent, involuntary, and painful erections of the penis.

Though an inflammation and secretion answering to this description may be produced by connexion with women who are affected with inflammation of the vagina, the lochial, or menstrual discharge, fluor albus, and ulcerations of various kinds, or by masturbation, habitual costiveness, inflammation of the prostate gland, calculi in the bladder or ureters, piles, excessive use of fermented liquors, exposure to cold and wet, external injuries to the penis, and even the irritation of teething, and intestinal worms in children; yet we may doubt whether the affections thus occasioned, are communicated by infection with the same facility as is exhibited in the disease in its more common mode of appearance.

In proportion as the discharge of gonorrhœa becomes purulent, its contagious character increases; but whether all such discharges, in whatever manner produced, are equally contagious, or whether the disease they cause is equally severe, is a matter of some difficulty to determine. It is my opinion that the contagiousness of gonorrhœal matter varies in every degree, and that the violence of the symptoms bear some proportion to the cause of their development.

At the same time, the difference in individuals, as to their liability to be infected, is very great, owing to temperament, and it would seem to custom. The same cause that will infect one person will produce no result upon another; or the same person

may become so accustomed to a contagion that it shall have no effect upon him. The fact that a woman does not cause a gonorrhœal discharge on one man, is no proof that she may not on another; and the same discharge in a woman, which had produced no result when habitually encountered, may cause a gonorrhœa after a period of absence. These facts may be found very important.

In most cases, however, a contact of gonorrhœal matter with the mucous membrane of the urethra in the male, or the vulva, vagina, or urethra of the female, is sufficient to produce a gonorrhœa; and this effect may follow whatever way the matter is applied, at a considerable period after it has been secreted, and even when it has become dry and hard by exposure to the atmosphere.

Thus a man, after using a privy, found a small piece of hardened matter adhering to the meatus urinarius, which he brushed off; he was soon after attacked with a violent gonorrhœa. It has been my misfortune to prove the length of time that the infectious character of gonorrhœal matter can be preserved, in a manner most annoying to my feelings, but which I deem it my duty to record, as a warning to others. I had occasion to introduce the same bougie into the urethral passages of two patients on the same day; and though both were free from the disease at the time, they came to me, a few days after, each of them with a well characterized and violent gonorrhœa. In the first case I could scarcely credit the patient, when he assured me that he had not exposed himself to contagion. I was obliged to forego my suspicions when the second case appeared. On an examination of the bougie, I became perfectly satisfied as to the source of infection. Several weeks before, the same instrument had been used in a case of acute gonorrhœa, and though it had in every instance after using, been carefully and thoroughly washed, I found upon a close inspection, that at some previous time, in attempting to bend it, when cold, it had broken into a multitude of minute, but deep fissures, in which, through all its cleanings, the matter had remained concealed, and which, undoubtedly, propagated infection in both of these cases.

A gentleman from the country came to me to be cured of a smarting and burning pain in the urethra. During my treatment, I ordered him to inject the passage with warm milk. Unknown to me he used a syringe which he had employed five months previously for a clap. In the meantime he had kept the instrument carefully in a paper case. The third day after making the injection he had all the symptoms of violent gonorrhœa, which he did not get rid of for four months. This gen-



tleman was a friend, and was in my own house ; I therefore know that he was not outside of the door from the time he entered until he finally left for his home. I am perfectly certain that he could not have contracted the disease anew by connexion with a diseased person. It is clear that he must have been infected by the syringe which had not been used for several months. The moment he discovered it, he said to me that he had clapped himself with his old instrument.

I trust that these facts may be a lesson to others, as they have been to me, never to risk a similar result in future.

Ricord has made the following division of the modifications and varieties of this disease.

*First Species.* Gonorrhœa in the female: seated in the vulva, the vagina, the uterus, or the urethra ; alone, or variously combined.

*Second Species.* Gonorrhœa in the male: seated in the urethra, on the prepuce, or the glans penis ; alone, or variously combined.

Gonorrhœa in the urethra is sometimes termed urethritis ; on the glans, balanitis ; and on the prepuce posthitis. These last named affections are also termed external or false gonorrhœa.

The mucous membranes of the eyelids, nose, and anus, are also liable to the gonorrhœal infection.

The first symptoms of disease appear in the male at periods varying from a few hours to six weeks after exposure—usually from the third to the fifth day. In females it commences at so many different points, and is generally so mild in its symptoms, that we can seldom have the opportunity of examining its first development. Very often it is not suspected until it affects the urethra, when burning or smarting is produced in urinating ; or until the contagion, communicated to the male, leads to an examination by the speculum, the only means for arriving at an accurate diagnosis.

In the male the first symptom is generally a slight uneasiness at the end of the penis ; upon inspection there is perceived a little redness around the meatus, the lips of which are puffed out, and there is a slight difficulty in passing water from this constriction. A discharge, white, straw-colored, turbid, and sometimes even bloody, soon makes its appearance. The scalding of the urine, common in this stage, is not always felt. The affection is now strictly local, and does not extend beyond an inch, or an inch and a half down the urethra. This is termed the first stage, and is accompanied with every degree of inflammation, from the mild and almost

chronic, to the highly inflammatory, according to the temperament and habits of the patient.

The second stage is characterized by a severe scalding of the urine, caused both by the progress of suppuration and the larger surface affected—the discharge now coming from a point as high as the scrotum, and involving the ducts of the glands of Cowper. An inflammation of the urethra, producing a contraction, with a constant tendency to erections, causes a painful chordee, and the matter assumes a thickened and greenish appearance, and is often tinged with blood.

In this stage the inflammation is often violent, and the sympathetic affections severe. There is a nervous fever, pains in the loins and back, sleeplessness, and general disorder, all proceeding however, from local irritation. At this stage abscesses may form in the substance of the penis, for which prompt surgical treatment is required.

The third stage commences when the inflammation reaches the prostatic portion of the urethra, embracing the entrance of the bladder, the prostate gland and its ducts, the seminal ducts and vesiculæ seminales. At this stage, the patient may be affected with tenesmus, retention of urine, inflammation of the bladder, of the epididymis, the spermatic-cord and vas deferens, gradually involving the whole of the testes and scrotum, and producing the sympathetic buboes, which, however, may occur at any period after the first, or primary stage.

The prognosis of gonorrhœa is one of the most perplexing things in the whole range of medical science. Left to itself, it is capable of resolution at any stage, without treatment, or it may subside into a chronic form, accompanied by a gleet, which seems to gradually lose its infectious character, and which may continue for an indefinite period, in spite of all treatment, or may cease spontaneously, or as a result of some favorable change in air, diet, or regimen.

It is difficult, if not impossible, to say when the chronic gonorrhœa, or gleet, absolutely ceases to be infectious, though this is a question of great importance to the patient. So much the greater is the necessity of preventing the appearance of the disease, or of curing it in its early stages. It now and then happens that during the first stage of the disease, or while much active inflammation exists, a serous effusion occurs in the cellular tissue of the penis, usually confined to the prepuce, but sometimes involving the entire organ, enlarging it as much as thrice its natural size.

## PLATE XXXV.

### FIGURE 1. — ULCERATIONS OF THE CERVIX UTERI.

THIS view was taken from a female who had had a discharge for twenty months. She attributed it to abortion, which occurred about the period of its first appearance. Her husband, she stated, had suffered from several venereal complaints. Inoculation was tried on several and separate occasions, but the inoculated point healed in twenty-four hours, and as we always failed in producing the characteristic pustule, we concluded that these ulcers were not specific.

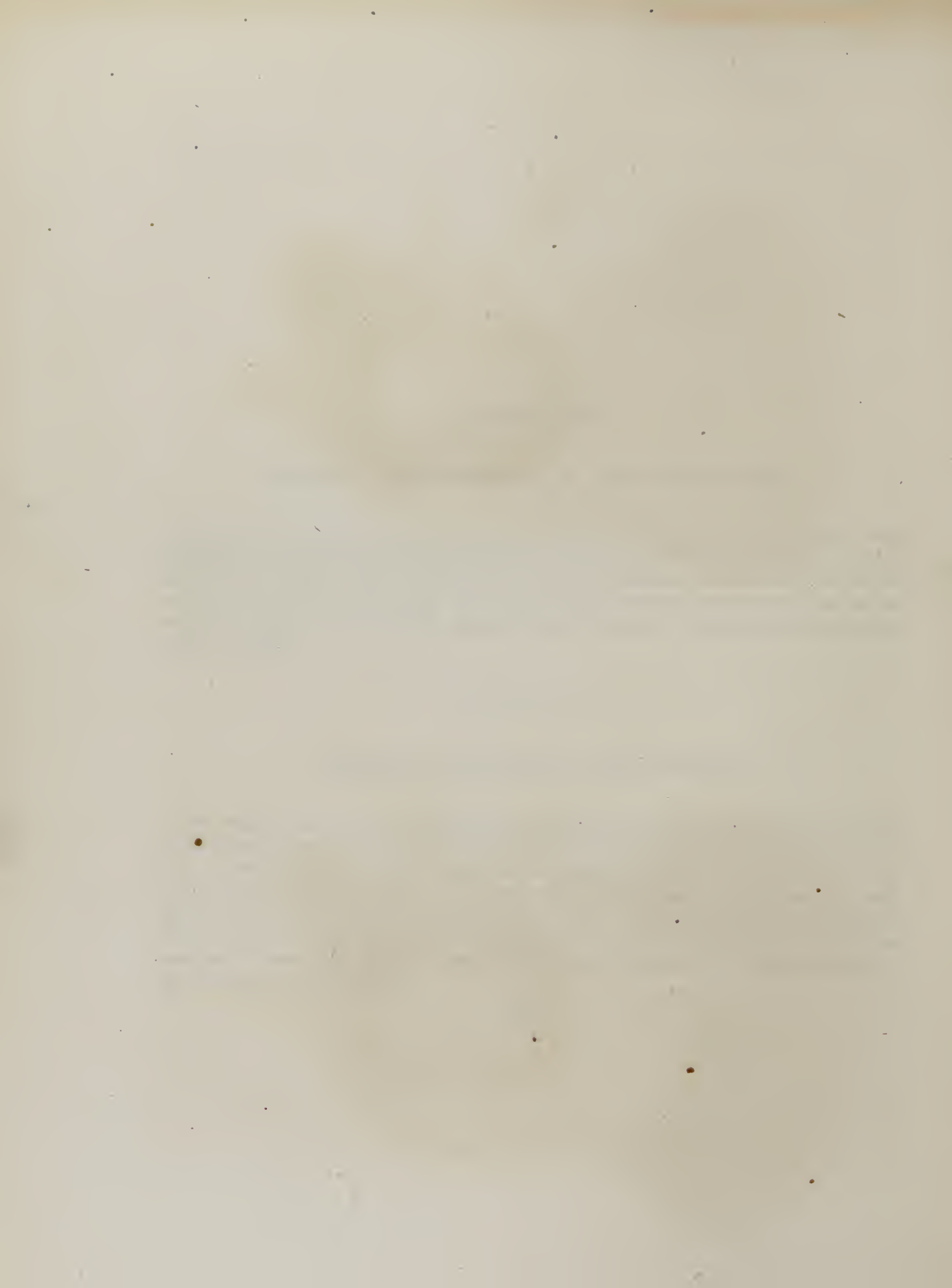
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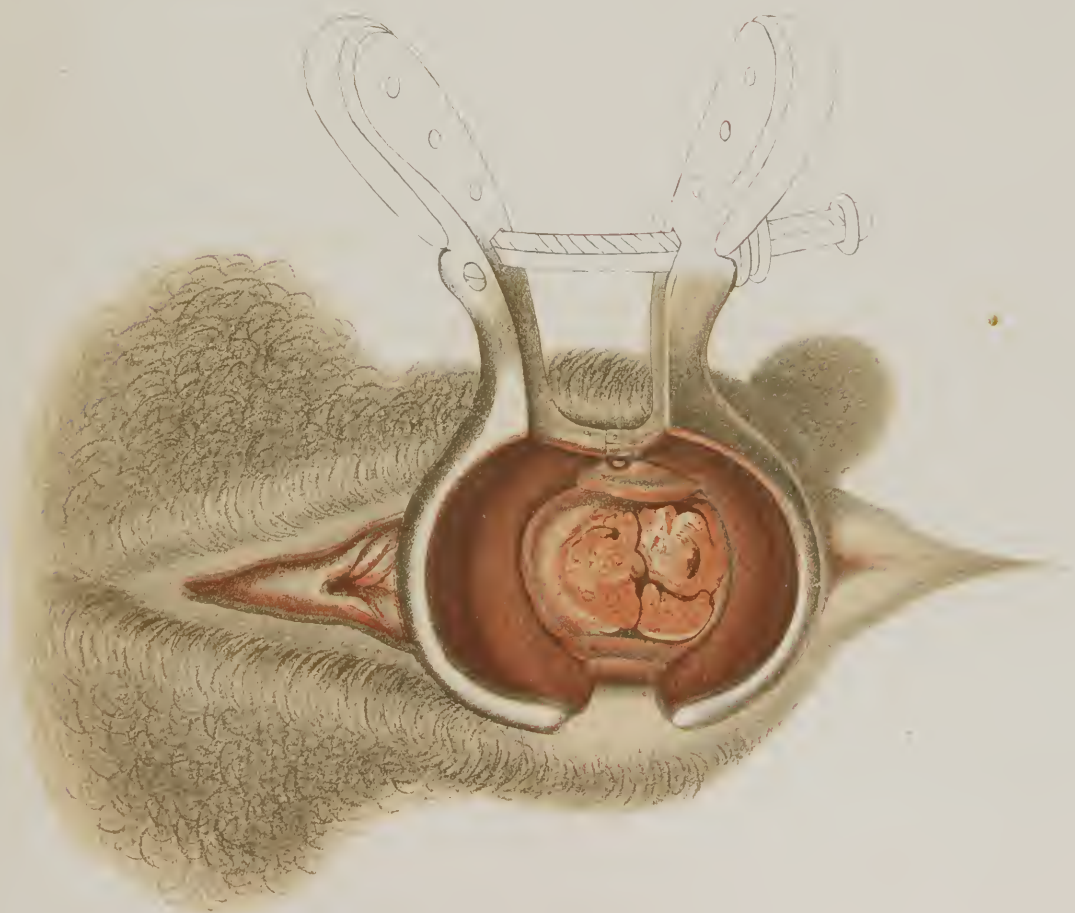
### FIGURE 2. — CATARRH OF THE UTERUS.

THIS affection occurred in a young girl, seventeen years of age, who presented a lymphatic temperament. She stated that she had formerly been much used to exercise in the open air, but during the last few months she had hardly ever left the house, and lived in a very crowded and damp situation. The condition of the os tinæ in young females is well shewn, but the mucous membrane is paler than usual. The artist has very correctly represented the glairy white-of-egg like discharge proceeding out of the os uteri, in which we occasionally meet with globules of pus, a secretion very different from those witnessed in the other forms of blenorragia.











## CHAPTER XIV.

### GONORRHŒA.—TREATMENT.

PROPHYLAXY.—No antidotes known.—Police regulations.—Ablutions.—Abortive treatment.—An antiphlogistic regimen, and avoidance of all excitement.—When the disease is first established it may be checked by astringent injections.—Revulsive treatment.—General and local depletion in the more advanced stages.—Purgatives.—Cubebs.—Balsam Copaiba.—Antimonials.—Ulcers and their treatment.—Inflammation reaching the bladder: its treatment.—Gonorrhœa in women: treatment. Some complications requiring different treatment.—Injections of the uterus.—Tampon.—The diagnosis of Gonorrhœa in the female very difficult.

WITH the truly enlightened and philanthropic surgeon, the first inquiry in regard to any disease must be—how can it be prevented? This is termed the prophylactic treatment, and demands our first attention.

We do not know of any substance, which, taken into the system, is an antidote to the infection of gonorrhœal matter. Such an antidote has long been sought for, and its pretended discovery has been often announced, but we have no good reason to believe that any of these pretended prophylactics are infallible. It is natural to suppose that a small dose of the essence or extract of cubebs, or of turpentine, might have such an effect, but it is a matter which could only be tested by a series of difficult or nearly impossible experiments, for we are not to expect that men will voluntarily submit themselves to infection, merely to oblige a scientific experimentalist.

The *condam*, if perfect, is, of course, an absolute preventive. To ensure this however, it cannot be used the second time, without having been thoroughly washed in a soap of a very caustic kind. Persons who use these instruments, which in spe-



cial cases are recommended by surgeons, both to prevent conception and infection, purchase them by the package, and run no risk from a second use.

But in a great majority of cases, were ablution with soap and water, and the passage of urine, practised immediately after connexion, and that connexion brief, and fulfilling its chief object, there would be very little danger. I am so satisfied of this, that I believe it to be quite possible to eradicate this disease in the space of a couple of years, by proper police regulations. They only who know how frequent this disease now is, and what pain, trouble, expense, and distress it causes, can properly appreciate the advantages of such a course as could easily be taken by the proper authorities.

There are doubts as to the right to pass laws, restraining men from indulging in their various appetites. It is certain that penal laws against drinking, or fornication, must be dead letters upon the statute book, but a law which would prevent one person from poisoning another, by the spread of an infectious malady, is manifestly just ; and the wilful communication of such a disease, should be treated as a misdemeanor of a very serious grade. But I have already dwelt upon this subject, in connexion with syphilis.

In the absence of the proper legal remedies, the only known prophylactics are such as I have mentioned above.

Next in importance to the preventive treatment, is the abortive ; and in this disease, so difficult to cure in its later stages, this treatment is peculiarly important. It is indeed of the greatest consequence that it should be cut short at the outset.

For this purpose, the first indications are absolute rest, quiet, removal from all causes of excitement, sexual and otherwise, total abstinence from spirits, wines, and fermented liquors, from spices, and nutritious or high-seasoned food — in short, a most thorough and perfect antiphlogistic regimen, and a brisk purge of senna and salts. This alone has often prevented the development of the disease, when its first symptoms had made their appearance. These symptoms consist, in such cases, of a slight itching of the urethra, especially in making water ; a sense of weight in the penis and scrotum ; a frequent inclination to urinate ; and at length a little redness of the meatus, and an increased secretion of mucus.

All these symptoms, however, may be simply the result of excitement. It does not at all follow that there will be a gonorrhœa ; still, such signs are enough to put the patient on his guard ; and it may be, that but for errors of diet, the disease would never be further developed, even where there is no doubt of exposure to the

infection. A strictly antiphlogistic diet—a lenten fast with total abstinence from all malt, vinous, distilled liquors, and cider, and refraining from warm baths, and every thing that can either excite or enervate, from fatigue and exposure—give the best chance of avoiding the evolution of the disease, or of easily curing it when indubitably manifested.

But, in view of the dangers of delay, and of the fact that the severity of the affection is in proportion to its continuance, ought we to wait for the commencement of the muco-purulent discharge, before attempting to check it by more decided treatment? Where the patient has been exposed to a hazardous connexion, and where the premonitory symptoms exist, I am decidedly of opinion that no time should be lost. The disease at this time, or rather the infected surface, is very small in extent—not extending more than an inch, possibly less than that distance, up the urethra. There are now several modes of treatment. In a number of cases, and with very few failures, I have found that injecting into the urethra, every half-hour, a solution of the sugar of lead and the sulphate of zinc, and continuing them for twenty-four to forty-eight hours, has usually been sufficient to cure the disease. Frequent injections of warm water in the acute stage is always highly beneficial. Injections of a solution of nitrate of silver, from two to twelve grains to the ounce, according to circumstances, are strongly recommended by Carmichael, and other surgeons. I however, have not found in them the benefits I was led to expect; and I am satisfied that the most successful way of using nitrate of silver in chronic cases, is to effect a cauterization, and for this purpose we must use either the solid stick, guarded by a proper holder, or the solution as strong as it can be made, consistent with the necessary degree of fluidity. It is certainly my belief, that a bold, thorough cauterization of the urethra, to the extent of diseased surface, followed by antiphlogistic treatment, proportioned to the inflammation, would in every instance, check the disease in its earliest stages.

What is termed the revulsive treatment, is much practised in the French hospitals. It consists in the application of from twenty to forty leeches to the perineum, according to the strength of the patient, with powerful doses of copaiba, cubebs, and similar medicines. This treatment, Ricord thinks will always cure gonorrhœa in from three or four to fifteen or twenty days, the proper regimen and diet being strictly observed.

When the disease is of a mild type, without pain or inflammation, it may often be cured with astringent injections, without resorting to any other remedies.

Whatever the treatment, the bowels should be kept open, and for a drink, the patient may have a tea made of barley, flax-seed, mucilage of gum-arabic, or something similar, with the addition of small doses of the nitrate of potash, which corrects the irritating qualities of the urine. Drinking large quantities, so as to fatigue the urethra by a frequent passing of urine, is objected to by many writers. This is all nonsense; it is perfectly evident that a frequent cleansing of the urethra, either by simple injections, or the more natural process of urinating, must be calculated to do good and advance the cure.

Besides the use of injections of the nitrate of silver, in all proportions, from one grain to the ounce, up to a powerfully cauterizing solution; and of the sugar of lead, sulphate of zinc, sulphate of copper, tannin, &c., a solution of the iodide of iron, varying in strength from one to eighteen grains to the ounce, has proved in my practice sometimes successful.

Before proceeding to the consideration of the treatment to be pursued in the secondary stage, I must mention one remedy, on which I believe great reliance may be placed, which is the introduction of a roll of lint, dry, or saturated with a mild resolvent solution, either after a cauterizing injection, or one of a more simple character. This may be managed in several ways. The easiest would be, perhaps, to introduce the roll in a silver tube, to which I have adapted a wire with a blunt fork, that straddles a fold of the tent. The wire holds the lint while the tube is withdrawn, after which the wire is removed with ease. This appears to me the most convenient method.

Keeping open the urethra of the male cannot fail in promoting a cure, as the progress of the disease is maintained by the contact and irritation of affected surfaces. This lint may be removed as often as necessary, and fresh rolls introduced. I do not despair of yet discovering a remedy, which, applied in this, or some other manner, shall deserve to be considered an absolute specific in all the stages of this disease, in which it is confined to the urethra.

Until such a discovery is made, we must rely upon the local applications and revulsives mentioned above.

The second stage of gonorrhœa—that attended by a more extensive suppuration, violent scalding, frequent and almost constant erections, painful chordee, and sometimes bleeding more or less violent from ruptures of the urethra, comes on at no definite period. It may occur in a week, or not for a month. When this stage is



fully formed, with its inflammatory tendencies, and especially if the suppurating process shall have extended to the bulb of the urethra, injections can be of but little use, and may aggravate the symptoms.

Should the patient require it, general as well as local depletion, or at all events, entire rest and a strictly antiphlogistic regimen must be insisted on. The local abstraction of blood, by leeches, continuously, and in considerable quantities, is strongly recommended. The patient must be kept as free as possible from all excitement, from lascivious ideas, and in as low a temperature as is consistent with comfort.

The tendency to erections, with the exquisite pain of their attendant chordee, in this stage may be controlled by pills of opium and camphor, either taken in the usual manner, or pushed up the rectum. And the anti-gonorrhœal medicines, particularly copaiba, when it disagrees with the stomach, may be given in this way very conveniently, in the form of capsules. Doubtless it is better that they should be taken into the stomach, but in many cases that is impossible.

Injections of cold water, but more especially those made from a decoction of poppy-heads, as warm as they can be borne, and the solid contents of the decoction formed into a poultice and externally applied to the penis, have given me the most happy results, rapidly allaying the violence of inflammation, and when chordee existed at the same time, quieting that symptom.

I have heretofore expressed my unwillingness to proceed to general blood-letting in these diseases, except where indicated by excessive fulness; preferring, generally to control the circulation by nauseating doses of antimony; and perhaps nothing is more likely to prevent erections, and their attendant pain and irritation, than the nausea thus produced.

During the inflammatory action which attends the progress of the disease in the lower portion of the urethra, abscesses are sometimes formed. These should be watched with great care, and the moment fluctuation is distinctly felt, they must be opened outwardly, and where the skin is not adherent. These abscesses, if not thus opened outwardly, may form an opening into the urethra, produce infiltration of the urine, with its attendant irritation, and fistulæ, which are by all means to be avoided.

The hemorrhage, caused by a rupture of the urethra, sometimes produces a favorable result; but at others it returns at every erection, and becomes so serious as to require surgical remedies. Preventing erections, and keeping the parts elevated and cool, may be sufficient. If not, we may resort to cold lotions, compressions, and,



if required, the introduction of a bougie, which may be allowed to remain for one or two days, or even longer, until the hemorrhage is arrested.

When the inflammation has been controlled, we must resort to the anti-gonorrhœal medicines, of which I shall speak more particularly hereafter. Alone, or in combination, they may effect a cure; or each may fail in its turn. We may also, when not contra-indicated by inflammatory symptoms, resort to injections; but without any promise of absolute success. Surgery is no where more at a loss than here. In one instance where a gonorrhœa had for twelve months resisted every mode of treatment, with the assent of an intelligent patient, I injected nearly the whole length of the urethra with the strongest possible solution of nitrate of silver, which was retained for some moments. The operation was by no means as severe as one might suppose, there having been instantly formed a cauterized surface. After cleansing the passage, by urinating, a bougie was introduced, and worn for several days, and the cure was complete.

I have much faith in the efficacy of keeping the urethra open, and free from contact with itself; which plan, with the free cauterization, produced the cure in the obstinate case above mentioned.

In the third stage, which is however but a name for the gradual progress of the disease through the length of the urethra, the inflammation extends to, and perhaps into the bladder, affecting the prostate gland, the glands of Cowper, and the epididymis, as also the rectum. The result is a distressing tenesmus, a retention of urine, painful erections, with a liability, if the symptoms are not immediately relieved, to an ulceration of the bladder, suppurations of the glands, fistulæ, infiltrations, and gangrene.

With a patient in such a condition, brought on by exposure, carelessness, excess, or bad treatment, the surgeon must resort to prompt measures; the inflammation must be reduced, by general and local treatment. Leeches may be applied to the perineum, followed by wet cloths; an injection of fifty drops of laudanum in a wine glass of warm water, may be thrown up the rectum, or a pill of opium placed there to control chordee and tenesmus; under this treatment, as inflammation subsides, the spasm ceases, and permits the passage of urine; but if not, we must resort to the catheter. A curved gum-elastic instrument, of a middling size, lubricated with an ointment containing extract of belladonna, should be introduced very slowly; and may be allowed to remain, while the inflammation is still combated. In this stage,

frictions with laudanum, and emollient cataplasms, may be useful, but the treatment here is more general than specific.

After the acute stage has been subdued, we may resort to the anti-gonorrhœal medicines, with cold and saline baths, tonic lotions, a more general diet but not the slightest excess, and an attention to such a regimen as shall promote the most healthy condition of the system, and the fullest and most free action of the vital functions.

We are never to forget that here is no virulent poisoning of the blood, but a diseased state of a single tissue, which nature is constantly endeavoring to restore to a healthy standard. In the chronic form, which the discharge maintains for a long period, running into an annoying gleet that may last for years, sea bathing, and perhaps the tonic air of the sea shore has been of great benefit. The mineral waters are also highly recommended.

In one case, where several sailors went to sea, with such discharges, they all took to chewing oakum, and attributed the cure which followed, to the tar it contains. I am not prepared to say that tar-water, as a daily drink, might not promote a cure in the obstinate cases we often meet with; and I recommend its trial in our hospitals. If, however, it was the sea voyage, the regular life, and bracing air, which in many cases promotes so much the health of the system, then we are to recommend a sea voyage.

Gonorrhœa in women, is a disease comparatively mild in its symptoms, and of easy cure. It is scarcely noticed in the first stage, and liable to be confounded with other discharges, so that the surgeon has not often the opportunity of cutting short the disease, by the treatment termed abortive. When it is observed in the first stage, existing in the vagina or uterus, astringent injections and applications may be effectual; or if the disease exists in the urethra, it may be cured by cubebs and copaiba. The principal means of cure, are, antiphlogistic treatment according to the symptoms, cleanliness, by means of baths and injections, demulcent drinks, and emollient and narcotic fomentations.

Perhaps the most effectual means of all, is the isolation or separation of the affected parts from each other, and rest. A tampon of fine lint of sufficient size, should be introduced into the whole extent of the vagina, and moistened several times a day, with a solution of the acetate of lead and sulphate of zinc; or the vegetable astringent lotions may be sufficient.

There are cases in which the acute stage does not yield readily to antiphlogistics, emollients and astringents. In such cases, a superficial cauterization of the parts with nitrate of silver injections, or a solution, applied by means of lint, will produce astonishing results. After such cauterization, the sides of the vagina must be kept apart by dry lint, to aid in the cure. In the acute stage, the anti-gonorrhœal medicines afford no benefit, and may increase the irritation.

After the acute stage, the treatment should be active, to effect a speedy resolution, and to avoid a chronic stage, which may last long and be troublesome. The strength of the solution used as injections, or with the tampons, may be increased at this time, and will generally produce a cure; but in many cases, more tonic applications must be resorted to, such as a decoction of oak-bark, with equal parts of sulphate of alum, zinc, corrosive sublimate, &c., and may be used in succession.

Should the disease extend to the interior of the uterus, the treatment becomes one of extreme caution and delicacy, yet even the internal surface of that organ will admit of injections of nitrate of silver, which may be commenced with one grain to the ounce, and increased — such injections to be given at intervals of several days.

The deep-seated portions of the vagina and the uterus, are liable to be affected with ulcerations and granulations, which are to be cauterized with nitrate of silver, or nitrate of mercury; or calomel may be sprinkled on the diseased part; and after each cauterization or application, the tampon is to be used as before directed.

There are a few points more which may deserve the consideration of the surgeon in addition to the general principles already mentioned.

When, from the acuteness of the inflammation, the natural smallness of the vagina, or from virginity, it may be impossible to resort to injections, until the acute symptoms have subsided, we must have recourse in such cases, entirely to external applications.

In acute affections of the uterus, emollient fomentations and cataplasms may be applied to the lower part of the abdomen.

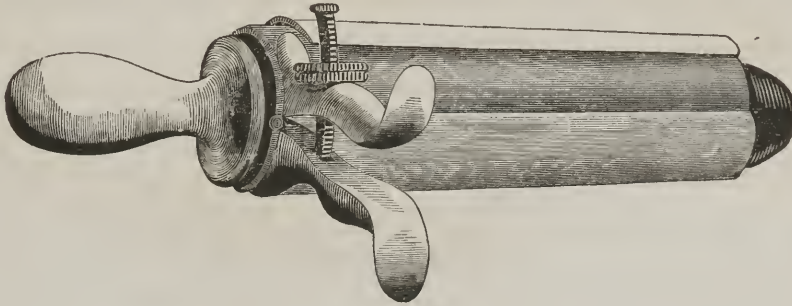
Acute urethritis is sometimes accompanied with retention of urine, which, if it does not yield, as in most cases, to antiphlogistic treatment, requires the catheter, and it must be applied with as little irritation as possible.

The swelling of the nymphæ is sometimes so great, with serous infiltration, as to threaten gangrene. Incisions should be made to prevent this: but if it have unfortunately occurred, we must pursue an antiphlogistic treatment, with the local ap-



plication of extract of opium. I have elsewhere recommended for gangrene the use of sanguinaria, externally and internally. It may be employed in combination with opium.

Of course many of the applications mentioned above, require the frequent use of the speculum, an instrument of absolute necessity in all female diseases; but it is quite apparent that it cannot be used in the acute stage of the disease.



*Tri-valve Speculum. — The best in use.*

The prompt opening of abscesses, wherever formed, in or around the vagina, must not be neglected, if we would avoid infiltration of pus into the tissues around the rectum, and the formation of fistulæ. These may usually be obliterated when first formed, by compression; but if they do not yield to this, they require cauterization, and the subsequent application of cantharides, to promote granulations.

Inflammation of the ovaries may exist as a complication of gonorrhœa in women. It requires antiphlogistic treatment, and general and local depletion, with laxatives. After the acute stage, blisters applied to the inside of the thighs act as revulsives, and frictions with mercurial ointment in the iliac region, appear to act as resolvents.

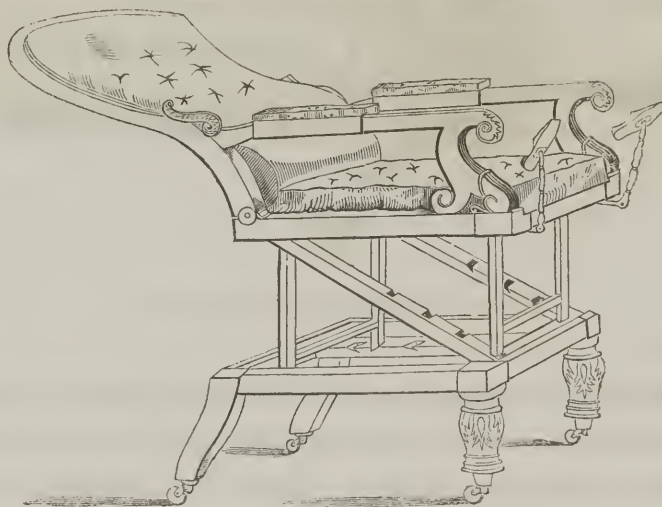
When injections of the uterus are followed by hysterical attacks, they are to be treated with anti-spasmodics, and symptoms of cerebral congestion may be met, either by the abstraction of blood from the arm, or the application of cold to the head. The use of the douche bath, or a large stream of water falling on the head with considerable force, is used by many in preference to the lancet.

Gonorrhœa in females, as in males, is sometimes, though rarely, followed by a chronic discharge from the urethra. In these cases injections must be made use of as in males — with the same instrument — the entrance to the bladder being guarded



by pressure with the finger passed up the vagina, or it may be cauterized by solid nitrate of silver, with the aid of a suitable holder.

Emollient fomentations and injections should be tepid—but resolvents, astringents, and tonics, should be applied cold. The injections must be made with a female glass syringe, which, for obvious reasons, is superior to all others, by which the injection may be made to penetrate to the whole extent of the vagina. In children, or when the hymen exists, we may employ a straight canula with a conic end.



*Speculum Chair.*

The position of the patient is important. It is only in a recumbent posture, with the pelvis elevated that the injections will reach every part of the vagina.

Injections of the uterus require a proper position, the use of the speculum with a strong light, and a glass or silver syringe, furnished with a long sharp pointed nozzle. It is necessary in using highly astringent or caustic injections, to wash the uterus afterwards with a simple fluid—and an ingenious double syringe has been contrived for that purpose.

The tampons are made of a roll of lint, large enough to fill, without distending the vagina. After injection, and moistening them with the fluid, they may be applied either by the patient or the surgeon, with or without the speculum, but much better with it.

The cure is to be followed by injections of cold water, except, for a few days before, after, and during the menstrual evacuation; at which time the application of cold water, is dangerous, and has sometimes proved fatal.

The speculum chair is very convenient. The diagnosis of gonorrhœa in the female is a matter of extreme difficulty, and is only accompanied with tolerable certainty, when great experience in vaginal and uterine diseases is united with the frequent and skilful application of the speculum. When certain peculiar erosions or superficial ulcers may be seen on the mucous membrane covering the cervix uteri, there is little doubt that the disease is a true gonorrhœa. Leucorrhœal discharges in females of undoubted virtue have produced upon their husbands severe balanitis and even urethritis.

It may be the best plan, in regard to all delicate diseases, to give a patient the benefit of our doubts, according to the maxim of law, so far as our communications to third parties are concerned; while we should have from our patients, the most unreserved confidence. Indeed, people are too apt to trifle and tamper with their medical advisers, in regard to the causes of disease; and it sometimes requires the cross-examining powers of a good lawyer, to get at facts, on which the very life of the patient may possibly depend.

## PLATE XXXVI.

### FIGURE 1. — BALANITIS.

THE character of Balanitis, may, with advantage, be studied in this plate. It was impossible to say if sexual intercourse, or want of cleanliness was the cause. The general erysipelatous redness of the glans is well seen, and the excoriated appearance so often to be met with in this affection.

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### FIGURE 2. — VEGETATIONS.

THE subject of this complaint was a young man twenty-four years of age. He states that he never has had either gonorrhœa or chancres. The characters of the complaint are well seen; the clusters of the granules are very florid, each granule presenting a conical appearance, though collected into masses.

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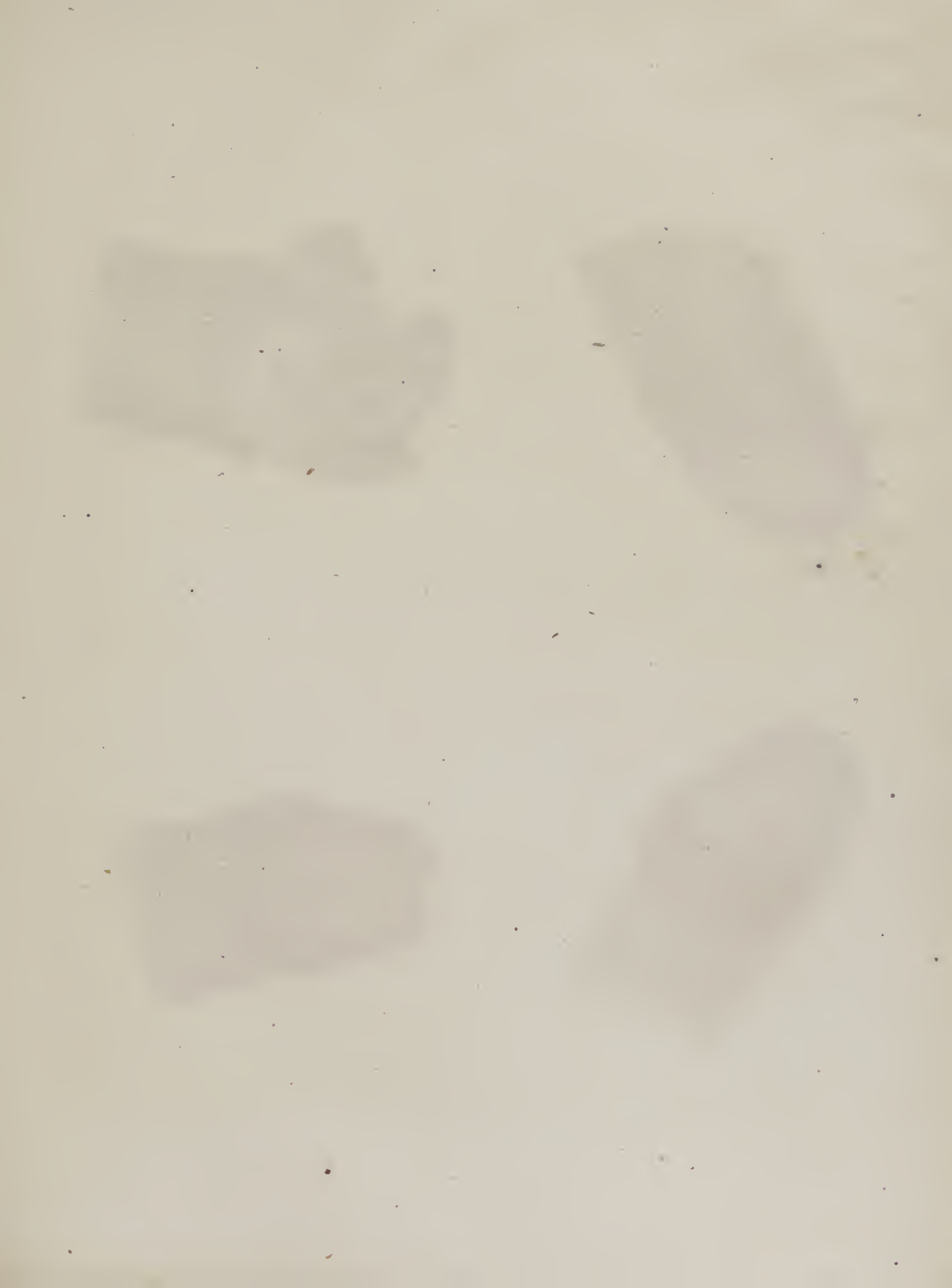
### FIGURE 3. — ECZEMA.

THE appearances, as seen in this plate, are very characteristic of the affection, namely, the exudation of a serous fluid forming little scales, and the crevices are distinctly seen running between these little lamellæ, resulting from the drying of the exuded fluid. The history of the case was obscure; the patient advanced in life.

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### FIGURE 4. — HERPES PREPUTIALIS.

HERPES, in its various stages, is delineated in this plate. Commencing as a vesicular disease, its vesicles may ulcerate, and assume all the physical characters of chancre. The five or six vesicles will be seen on distinct patches of inflamed skin, differing, in this respect, from all other vesicular eruptions.





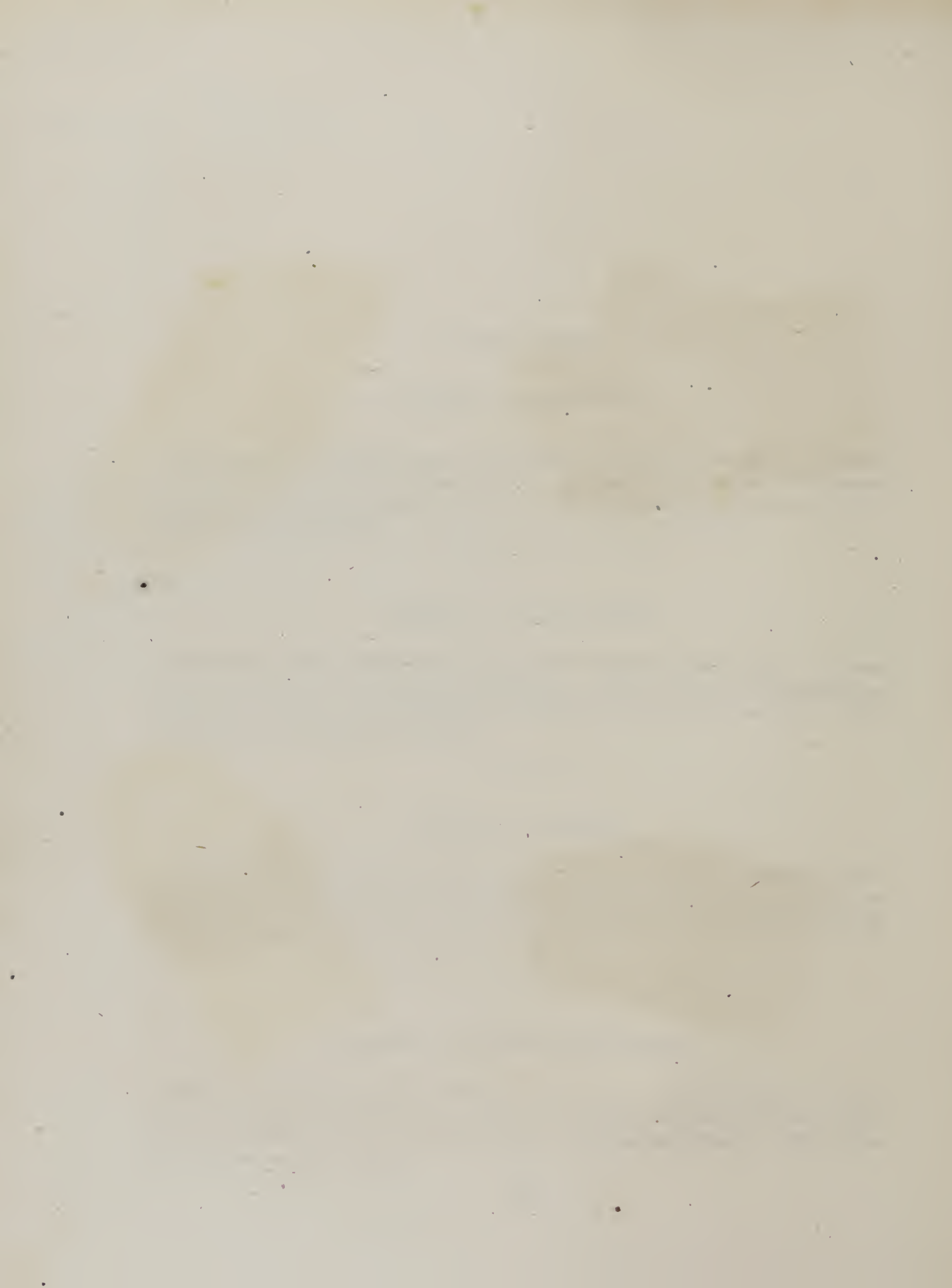


Fig. 2



Fig. 4



Fig. 1

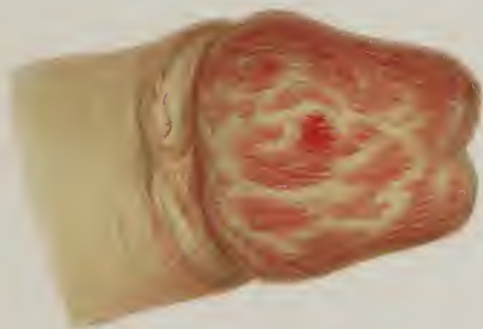


Fig. 3





## CHAPTER XV.

### BALANITIS AND POSTHITIS.

THEIR Definition.—The symptoms.—The common causes: treatment.—Cauterization.—Astringent and anodyne lotions.—Antiphlogistics.—Operation for Phymosis.—Some of the consequences of Balanitis when improperly treated.—GONORRHOEA COMMON TO BOTH SEXES.—Of the eyes: men and infants most liable to it.—Caution.—Treatment.—General and local antiphlogistic measures. Cauterization.—Narcotics.—Chemosis: treatment.—Excision.—Scarification.—Cauterization.—Issues.—Gonorrhœa of the mouth and nose: of the anus: treatment.

BALANITIS is a kind of external gonorrhœa, situated on the surface of the glans penis; a similar affection of the prepuce is called posthitis.

These affections are characterized by redness, a muco-purulent secretion, with or without excoriation. Though separately designated, they are generally complicated, or rather the entire surface is affected.

This disease will scarcely occur, except in patients who have a partial degree of natural phymosis; for where the glans are freely and habitually uncovered, the surfaces become hardened against the causes which produce it.

The presence of vaginal secretions of a more or less irritating quality; the menstrual fluid; the matter of gonorrhœa; the secretions of the glandulæ odoriferæ, or filth of any kind, lodged beneath the prepuce, act as irritants, and are the most common causes of this affection. On account of the generally existing phymosis, it is not always easy to distinguish between chancre and balanitis. When the prepuce can be drawn back, the redness, swelling, and excoriated surface of the glans, or the prepuce, may easily be distinguished from syphilitic ulcerations.



The treatment is very simple. A single cauterization will sometimes produce a cure. If not, it must be repeated. All inflammation is to be allayed by the usual methods. Compresses wet with cold water, or a solution of sugar of lead and zinc, are very useful; or anodyne lotions may be employed. When the inflammation is accompanied by phymosis, or paraphymosis, active antiphlogistics are required, with fomentations, and emollient local applications. Opium and camphor, by the mouth, by injections under the prepuce, and in enemata, are serviceable in preventing an attack of gangrene. An operation for phymosis should not be resorted to, unless of absolute necessity to prevent gangrene, while there is any doubt in regard to a syphilitic complication.

Cauterization, carefully performed, with a stick of the solid nitrate of silver, and the interposition of a piece of soft linen between the surfaces of the glans and prepuce, is generally sufficient. An astringent powder is sometimes found to answer better than an astringent lotion for the subsequent applications.

Balanitis, when improperly treated, may produce enlargement of the sebaceous follicles, vegetations at the base of the glans, thickening and hypertrophy of the mucous membrane, adhesions between the glans and prepuce, and, according to some authors, cancer of the penis, as well as paraphymosis and phymosis already mentioned. It may also produce the sympathetic affections of the glands of the groin, the epididymis, &c., of which I shall speak hereafter; and I have also preferred to treat separately the surgical operations necessary in venereal diseases—their consequences and concomitants.

#### GONORRHŒA COMMON TO BOTH SEXES.

I have already mentioned the fact that gonorrhœal inflammation may attack the mucous membrane lining the eyes, nose, mouth, anus, &c.; and though these affections are comparatively rare, they are still of sufficient frequency to demand a brief and separate notice.

Gonorrhœa of the eyes—Blenorrhœa oculi—is more common in men than women, and more frequent in infants than either, who are attacked immediately after birth, from infection received from the mother during parturition. There appears to be little doubt that in adults, as well as in infants, the disease arises from the direct

application of gonorrhœal matter to the conjunctiva ; and it is more common in men than women, simply because they are more apt to carry the matter to the eyes, or other parts subject to infection, than females. The idea that these affections are sympathetic, is opposed by their infrequency, by its impossibility in cases of infants, and by the circumstance that a sympathy would be more general.

As the consequences of the gonorrhœal ophthalmia are frequently of a very serious nature, the causes of it should be most carefully avoided. The gonorrhœal poison is extremely subtile. It lodges in the slightest crevices, as cracks in the skin, and the space under the nails ; and the patient with a gonorrhœa cannot be too careful not to soil his fingers in the first instance, and in not communicating the infection by rubbing his eyes in the second.

For the same reason, when the infection has taken place, the treatment should be prompt and energetic. It consists, first, in general and local antiphlogistic treatment. If the patient is so robust as to require it, he may be bled from the arm, and have leeches applied to the nostril, temple, and around the affected eye, avoiding the lids. The eye-lids should then be everted, with the least possible irritation, and the whole surface of the conjunctiva slightly, but carefully cauterized with a stick of nitrate of silver, after which the caustic matter must be washed away by a careful injection of cold water. Compresses, dipped in a cold decoction of poppy-heads, may then be laid over the eye. Should there be deep-seated pain and inflammation, the extract of belladonna may be applied to the nostril, and lower margin of the orbit.

A chemosis, threatening the strangulation of the cornea, requires immediate treatment, either by cauterization or excision. If a simple œdematous chemosis, it may be easily raised with the hooked forceps, and removed by curved scissors ; but if phlegmonous and indurated, scarifications only can be used, and they are uncertain in affording relief.

The cauterizations with the nitrate of silver, are the first, second, and last remedy, but they should be aided in every possible manner. A seton, or, as I prefer, an issue with the pea on the back of the neck, and frequent purgatives, are very efficacious, and an eye-wash of nitrate of silver, (one grain to the ounce of water) may follow up the cauterizations.

The anti-gonorrhœal medicines, as cubebs, copaiba, &c., have no influence on this affection, nor in any other, except the urethra be its seat.

Gonorrhœa of the mouth and nose, is extremely rare, but it is somewhat more

frequent in the anus, especially in females. In the latter affection the bowels must be kept open, with whatever antiphlogistic treatment is necessary; and baths and emollient fomentations are useful auxiliaries. Slight canterizations with the nitrate of silver, solid, or in solution, is most of all to be relied upon.

It really appears that the means most to be confided in, when treating any variety of venereal disease, in its early stages, is the application of a powerful caustic to the diseased surface, destroying the virus, or producing, with a new surface, a healthy action.

## CHAPTER XVI.

### VARIOUS MEDICINES FOR GONORRHŒA.

BALSAM Copaiba : Its mode of action — different modes of administration — its combinations with other medicines. — Cubebs : Its combinations and forms. — Turpentine.

IN speaking of a disease so common, so often difficult to cure, sometimes so deplorable in its results, and where there is such a variety and uncertainty of opinions in regard to treatment ; I have thought proper to add a few remarks respecting the medicines and management most worthy of our consideration — the results of general experience ; of which results however, science can make no boast. The most important specific remedy is balsam of copaiba, which appears to produce salutary effects in at least two different modes. When it acts, as it sometimes does, and if given in very large doses may nearly always do, upon the bowels, giving rise to diarrhœa, its *modus operandi* is denominated revulsive. A new centre of fluxion is established in the intestines, and an irritation, or perhaps inflammation of an ordinary kind, takes the place of one of a specific nature in another and distant situation. In this way, its action is analogous to counter-irritation by blisters and other remedies of this class, and the cure possibly follows on the same principle. The balsam may be combined with purgative medicines, less offensive to the stomach, by which catharsis is obtained more agreeably, and the same chief purpose accomplished. It is, indeed, alleged by some of the highest authorities, that the purgatives in common use, will fulfil the indications just as well as if copaiba be employed, either alone or in conjunction with them. Such is the prevailing theory respecting revulsive action of balsam. I am inclined, however, to entertain a view somewhat different. Giving



full credit to the consequences of counter-irritation, I cannot help thinking that it also produces its usual specific effects by entering the torrent of the circulation. We thus have two causes concurring, that may, in certain peculiarly obstinate cases, develop a new action in the diseased membrane, which, singly, neither one would be able to establish. I have known rapid cures occur, when balsam has been joined to a purgative, that it was quite unable to accomplish alone.

It is thought by some, for whose opinions I entertain a very high respect, that, although purgation will suspend the urethral discharge, yet there is a great liability that it will return, when medication has ceased, and the affection is supposed to be cured. My own experience does not corroborate this view. But, although I believe the plan to be a good one, looking merely to arresting the disease, I do not frequently resort to it, in consequence of the pain and debility that the patient is thus made to suffer, and his necessarily great repugnance to such rough treatment, which he does not fully comprehend the advantage of.

The other mode in which balsam acts, is entirely through the kidneys. It is impossible to explain the manner in which it allays the blenorrhagic inflammation. There can be no reasonable doubt that in its passage through the system, the medicine undergoes some peculiar change, fitting it for the specific effect that is accorded to it. This fact would seem to be demonstrated by employing the same remedy in the shape of an injection. When used in this way, no good has resulted; and this method, therefore, has been abandoned for the more efficacious one of internal administration.

Balsam copaiba is contra-indicated during the acute stage of severe inflammation, which should first be reduced by purgatives, leeches, fomentations, and in short, the general antiphlogistic treatment. Its dose should be modified according to the stage of the disease, and its constitutional effects on the patient, and it may be exhibited in various combinations, or alone.

The mixtures and preparations are, for the most part, excessively nauseous, and the elegant form of capsules, now universal, is to be preferred to all others, but it may also be administered without much difficulty, in lemonade, or lemon soda.

The only combinations which appear of any use, are those with opium or astringents, when we wish to prevent its action on the stomach and bowels and with diuretics, to aid its passage through the kidneys; and the observations of Ricord, in regard to its impotence in the cure of any other than the urethral gonorrhœa, would indicate that it is to this point we must direct its specific action.

Dr. Wallace, whose experience is entitled to respect, in spite of his theoretical errors, preferred to use it in combination with cubebs.

Some French surgeons give copaiba in doses, of from half an ounce to an ounce, night and morning, at the commencement. M. Delpech cured four hundred cases by giving two drachms and upwards for a dose, three times a day, with general bleeding, when required by inflammation. Rossignol cured three hundred cases of all kinds, by no other treatment or regimen, than large doses of uncombined copaiba. In such treatment, the specific effect through the kidneys, bladder and urethra, may accompany or follow the revulsion, which in most cases must be produced by the irritation of large doses on the bowels.

The combinations spoken of, as with opiates, astringents, or diuretics, may be made in the stomach, by giving the other remedies immediately after the capsules; or they may be made in mixture or pills, when given in that form.

When copaiba is not tolerated in the stomach, it may be given in proportionally large doses as an enema. It is best taken at night, after an evacuating injection, and in combination with opium. The patient must be in a horizontal position, and retain the injection as long as possible, to derive any benefit from it; two or three capsules at a time passed up the rectum will sometimes cure a gonorrhœa better than any other mode of administration.

The next medicine is cubebs, and it is given either alone, combined, or alternating with copaiba, in large or small doses, under similar circumstances, and with similar results. In chronic gonorrhœa and gleet, it is given in combination with iron. It is pleasanter to take than the copaiba, and may be used in the simple powder, pills, electuary, syrup, or lozenges. The oleo-resinous extract of cubebs, obtained by a double distillation, is a concentrated and pleasant form of exhibition.

In substance, the dose of cubebs is from a scruple to two drachms. This is comparatively a modern remedy in Europe and America, although it has long been employed for the same purpose in the eastern world. If it can be obtained fresh, it is perhaps quite equal to copaiba; but the volatile matter upon which its virtue chiefly if not entirely depends, unless great care be observed, is dissipated in the air, and the substance remaining is very nearly inert. Cubebs, from this circumstance, very often disappoints the expectation of the practitioner, and it hence has fallen into unmerited neglect. To use it successfully, it should be powdered at the time of prescribing it, and it ought to be given in full doses, or as largely as the patient can bear without causing uneasiness.

The curative action of this medicine I suppose to be identical with that of copaiba, as some chemist has lately ascertained, on subjecting it to an analysis, that they both possess a similar principle, in which the virtues of each, perhaps, mainly reside.

Turpentine, in its various forms, has been much used in this disease, and when other medicines have failed, it may be resorted to. I have known it, sometimes, produce the happiest effects, in cases which had long resisted all other means.

In protracted forms of chronic gonorrhœa, preparations of iron, chalybeate waters, iodine combined with iron, and cantharides, are all given as stimulants, tonics, and alteratives. External revulsives, as blisters on the insides of the thighs, frictions and vapor baths, have also arrested obstinate discharges.

It is proper to say that mercury has no specific action, and can only be beneficial in those rare cases, in which syphilis is a complication, or where a protracted inflammation has produced thickening and indurations. Quack remedies for gonorrhœa, containing mercury, can be of no advantage, though the disease may get well in spite of the remedy.



## CHAPTER XVII.

### SYMPATHETIC BUBO, OR INFLAMMATION OF THE INGUINAL GLANDS.

UNDER the head of syphilis I have described the bubo that is consequent upon that disease ; but there remains another affection resembling it in its early stage, produced by different causes, usually less intractable in its nature, and which never is succeeded by any constitutional effects.

The sympathetic bubo is a swelling of the glands of the groin, attaining, sometimes, considerable size, and is a very frequent concomitant of gonorrhœa. The symptoms are too manifest to require description. They are the same in all cases, however caused. It is supposed to arise, not from the absorption of virus, but, like swelled testicles, from the irritation in some other part. I have repeatedly seen it caused by cold. Persons have often presented themselves to me who attributed it to working in the water. It is common among fishermen, and a class of bar-keepers, whose employment exposes them all day long to wet feet, from the frequent splashing of water in rinsing their glasses. Sometimes it is caused by irritation about the feet. I have known it occasioned by corns on the toes. This kind of bubo seldom proceeds to suppuration, but I have met with abscesses and ulcers formed in this way, intensely painful and difficult to heal.

Its treatment must be conducted on the usual antiphlogistic plan. Should there be, (which is unusual) sympathetic fever, and the patient be plethoric, general bleeding may be premised, after which blood must be locally abstracted by means of leeches. I had one case in which cups seemed to answer a better purpose than leeches. The bowels ought to be opened with a brisk purgative, and cold lotions, either of whiskey and water, a solution of muriate of ammonia, of sugar of lead, &c.,



should be kept constantly applied. There are times in which warmth appears to answer a better purpose than cold, and particularly if there be much pain. Warmth, properly directed, may be made to produce the same physiological effects as cold, or astringents. The latter diminish the quantity of blood by contracting the capillary vessels of the inflamed parts—warmth diminishes it by opening the pores and causing a copious exudation of its serum. With such treatment the swelling will mostly subside in a few days, and give no further trouble. The administration of mercury is worse than useless in the sympathetic bubo, and it cannot be too much reprobated.

## CHAPTER XVIII.

### ACUTE INFLAMMATION OF THE TESTICLE.

THE different designations by which it is known. — Symptoms. — The effects of sympathy upon different organs of the abdomen. — Seldom attacks both testicles at once. — Seldom suppurates when it is sympathetic. — Diagnosis. — May be mistaken for strangulated hernia. — The mode of distinguishing between them. — *Causes*. — Most common one, irritation of the urethra. — Objections to the view of Sir Astley Cooper. — Most frequent when the inflammation has reached the prostatic portion of the urethra. — Injections — the effects. — Effusion of serum and coagulable lymph. — Swelling of the epididymis. — Wasting of the testis. — Treatment — purgatives; depletion; evaporating lotions; fomentations; poultices; suspensory bandage; bandaging the organ; when abscess is formed to be early opened; opium; mercurials; preparations of iodine; stimulating plasters; tartrate of antimony.

THIS is an affection of the testis, which was known to the older surgeons as *Hernia Humoralis*, and latterly has received several different designations, the last of which is that of Ricord, who calls it *Epididymite Blenorrhagique*. Translated into English, as it has been by Mr. Acton, it is *Epididymitis*. The most intelligible and the most characteristic designation is that which we have placed at the head of this chapter, and is sanctioned by Sir Astley Cooper and Sir Benjamin Brodie. I look upon this disease of the testicle as arising from many different causes, and frequently as involving the whole gland, and, therefore, the other terms that are quoted, lead to contracted and oftentimes false ideas of the pathological condition of the organ.

#### SYMPTOMS.

WHATEVER may be the exciting cause of this inflammation of the testicle, the first symptoms are a tenderness of the spermatic cord, beginning as far up as it can

be felt at the inguinal ring, and proceeding downwards to the epididymis. The testicle has a feeling of uneasiness and fullness, but is at first free from pain. It soon begins to swell, the tenderness increases, the organ feels hard under pressure, and particularly the epididymis. As it grows in size, its weight drags heavily on the cord, and, if the cremaster muscle be weak and the scrotum relaxed, much increases the uncomfortable sensations. There is now a constant dull aching pain, and so much sensibility, that pressure can scarcely be endured. Sometimes the spermatic veins become greatly enlarged, presenting the symptoms of circocoele; the vas deferens is also thickened and painful, and, if the inflammation be the consequence of a disease of the urethra, we often have symptoms which prove that there has been an actual propagation of the inflammation from the mouth of the ejaculatory duct through the vas deferens, along its whole winding extent, to the testis in which it originates. There is pain extending down the thigh of the side affected, in the hip, about the spinous process of the ilium, in the groin, along the inguinal canal, and in the loins.

Some of these pains are sympathetic. There is perhaps no organ in the body, unless it be the stomach, having a more extended set of sympathies than this. The disease of which we are treating is often the effect of an irritation in another part. The pain in the loins arises from the circumstance that the renal and lumbar plexuses of nerves give off the nerves that are distributed through the testicle. From the connexion between the same nerves and the nerves of the stomach, through the medium of the solar plexus, and with those of the intestines, through the mesenteric plexus, sympathetic affections of these organs frequently occur, when there will be nausea and vomiting, with colicky pains and flatulence in the bowels, accompanied with the most obstinate constipation. Many other organs sympathize in the same manner, particularly the bladder, which exhibits symptoms resembling a severe irritation of that viscus.

Should the disease arise from gonorrhœa, there will usually be suppression or diminution of the discharge, but this is not invariably the case; and what may be regarded as a very curious pathological fact, is the restoration of the purulent discharge from the urethra, when the swelling of the testicle subsides.

The disease seldom attacks both testicles at once, but it may be suddenly translated from the one to the other, in obedience to the same law that rules metastasis in other affections and organs.

The violence of the local inflammation often causes severe constitutional disturbance, and the patient suffers from a high sympathetic fever, with all its attendant symptoms.

At the beginning of this chapter it is stated, that Ricord denominates the inflamed testicle, *epididymitis*. Although such a term leads to an inaccurate idea of the extent of the disease, because the body of the testicle is involved and swollen, yet it is true that the epididymis swells more in proportion than the testis, and is longer in recovering from the effects.

Like the sympathetic bubo, and all other inflammations of a similar kind, arising from the suffering of distant organs, it is a very unusual circumstance for this affection of the testis to proceed to suppuration, when caused by sympathy with the urethra. But if it be the consequence of a direct injury, or be primarily affected, the prognosis is less favorable, and the testicle may become the seat of a very painful and troublesome abscess.

#### DIAGNOSIS.

ALTHOUGH the testicle is subject to many diseases, which, from a superficial investigation, may be mistaken for the one at present under consideration, yet the distinctions are so well marked, that such an error ought never to occur. The only difficulty in making out its nature, is when its symptoms bear a resemblance to hernia. As I have stated in describing the symptoms, when the disease is severe, there is a good deal of disturbance of the stomach and intestines; there is swelling of the cord, with much pain in the inguinal canal; all of which symptoms being common with strangulated hernia, may lead to a false diagnosis, and induce the supposition that the case is one of intestinal protrusion.

The history of hernia will lead us to make a correct distinction. It will probably have been of frequent recurrence. Its development is sudden, and often directly after violent muscular exertion. The swelling makes its appearance from the abdomen, and descends; it is attended with but little of the peculiar aching pain of an inflamed testicle. Should the case remain one of doubt, it may be resolved by obtaining a free motion from the bowels. For this purpose an active purgative injection should be administered, and such other means adopted as will insure intestinal action. If these measures succeed, all obscurity is removed; it cannot be a case of strangulated hernia. It may be added that the difference in the form of the swell-



ing, and the hardness of the inflamed testicle, will also assist in reaching a correct opinion.

Hæmatocele, which is a collection of blood in the tunica vaginalis testis, is also liable to be confounded with the inflammation of the testicle; but the distinguishing marks are, the blow by which the swelling was almost instantaneously produced, the ecchymosis with which it is generally accompanied, and the little pain the patient suffers in comparison with that which attends acute inflammation of the testicle.\*

#### CAUSES.

THE most common remote cause of inflammation of the testis, is irritation of the mucous membrane of the urethra. In no respect is physiology more at fault than in furnishing a reason for this fact. The doctrine of sympathies, or the tendency of one organ to participate in the actions of another, to a certain extent, is a profound mystery. There is some incomprehensible coincidence between certain distant parts of the nervous system, perfectly well ascertained, but which still remains unexplained. In the case before us, Sir Astley Cooper says that the testicle and urethra are so naturally connected in their healthy functions, that they readily sympathize in disease. This opinion I look upon as more specious than solid. Admitting such a line of argument, we should expect that the bladder would be subject to sympathetic inflammation even more frequently than the testicles. We should expect, also, that disease of the kidneys would, in like manner, be a very frequent concomitant of irritations of the urethra. The facts, however, do not sustain such an hypothesis. Besides, this mode of explanation should apply with equal truth to an opposite order in the series of morbid actions. A swelling of the testicle, or an inflammation of the bladder, by whatever cause induced, ought frequently to produce an irritation of the urethra. So far as I know this is never the case. There is another pathological phenomenon that I conceive very adverse to this explanation, namely, the sudden translation of the swelling of cynanche parotidœa, or mumps, (a specific disease of the glands of the throat) to the testes in males, and the breasts in females. Nothing can be more singular than this remarkable sympathy, and it is impossible to account for it on the principle propounded by Cooper. There surely can be no kind of functional connexion between these widely separated and dissimilar parts; and

\* Sir Astley Cooper on the testis.

we are, therefore, thrown entirely upon the general doctrine of sympathies, which remain still to be further investigated.

All the instances in which there is inflammation of the testicle, as an effect of irritation of the urethra, must not invariably be referred to sympathy. If the swelling happen soon after the contraction of a gonorrhœa, while the irritation is still confined to the external extremity of the canal, then, beyond doubt it is sympathetic; but when it happens in the later stages, after the irritation has advanced to the prostatic portion, it is probable that it often springs from an extension of the inflammation through the tube leading from the testis to the mouth of the ejaculatory duct. Hunter states that hernia humoralis occurred as frequently when the "inflammation had gone no further back in the urethra than about an inch and a half, or two inches, as where it had extended further." The observations of Hunter are very far from coinciding with those made by other distinguished surgeons, and, I may add, with my own. They prove the general doctrine of sympathy, but it will not do to accept his statement as evidence that the disease is, in all cases, dependent on sympathy alone.

After the irritation of the urethra has existed for some time, and the violence of its symptoms has subsided; when, in truth, the inflammation has reached the prostatic portion, the disease of the testicle is to be apprehended on account of continuity of structure as well as from sympathy. Here we do not grope in the dark. We have anatomical reasons for our guide; for in obedience to the same law which we see presiding in all inflammations, by which the inflammation is diffused, the testicle may become implicated, having first tenderness of the spermatic cord, and pain and swelling of the epididymis.

But, it is asked, why are both testes not affected at the same time? Here again we are met with a difficulty. Cooper says that the disease of one testicle diminishes the tendency to inflammation in the other. Such an explanation is necessarily unsatisfactory, because it is only one step towards the final answer. It does not go to the ultimate cause. The question rationally arises—*why* does disease have such an effect? This mode of replying to the inquiry takes leave of the doctrine of sympathies, and raises one of antagonisms. We see, besides, that the disease of one testicle very often suddenly leaves its original seat, and passes to the other testicle. A metastasis occurs as rapidly as in gout, or rheumatism, and the reason is just as much veiled in obscurity. It does not come within the province of this work to enter into theo-

retical speculations, and, therefore, I must refrain from attempting an elucidation of this phenomenon, and pass on to the more practical points of the subject.

Injections have a tendency to produce acute inflammation of the testis, not, as Sir Astley Cooper says, "by lessening the discharge from the urethra, and leading, thus, to a distended and turgid state of its vessels, by which the inflammation is rendered more extensive in the urethra," but rather because of the sympathy existing between the parts. Are such as he ascribes to them, the known effects of astringents? Do they not, on the contrary, diminish the size of the blood vessels, and reduce the amount of inflammation? Whoever has seen the action of astringents on the skin, or on the mucous membrane of the mouth, will, I am sure, agree with me in this view. The testicle swells, as I believe, because the inflammation is checked in the urethra, before the sympathizing parts have time to accommodate themselves to the change which has occurred. What have we but similar facts, when the hasty drying-up of established sores about the ears, produces inflammation of the brain; or rapidly checking irritation on the body, disease, perhaps, of some internal organ; or healing too speedily, a fistula in ano, a fatal malady of the lungs? To my mind, the same kind of effects are excited in all these and like instances, by some great law of animal organization. I entertain no fear of causing an inflammation of the testicle by using astringent injections, when they are employed with sound judgment; and I conceive that an unnecessary and unjust prejudice has arisen against them on account of the improper manner in which they have too often been used.

Bougies and catheters introduced into the prostatic and membranous portions of the urethra, will occasionally cause this disease, although in all my practice it has never once happened to me.

Injury and disease of the prostate gland, from whatever cause, also occasionally produce such effects. After an operation for stone, and even in the disease incident to old age, it may sometimes be observed. Inflammation of the neck of the bladder, or a calculus in it, a stone passing a ureter, have all been known to arouse an inflammation of the testicle. Hunter relates a case caused by gout.

Another frequent cause of this disease, is injury inflicted upon the gland by violence, such as blows and bruises. But wounds from cutting instruments are not so liable to be followed by severe inflammation and swelling, as the other instances that I have specified.

Changes of temperature upon the whole surface of the body, and the application



of cold water to the part, when the body is heated and relaxed, may be succeeded by the same effect. And, in fine, the excitement of the venereal appetite, long continued, such as toying with females, without any sexual gratification, is another not unusual cause of inflammation of the testicle.

#### ON THE EFFECTS OF INFLAMED TESTICLE.

A FREQUENT effect is one that is common to all serous surfaces—an effusion of serum, which, in this case, is into the tunica vaginalis testis. Such a condition constitutes what, in another place, I have described under the head of hydrocele. As this inflammation subsides, however, the water is usually removed by the action of the absorbents.

There is sometimes effusion of coagulable lymph, and adhesion of the testis to the sack which invests it. There may also be a thickening of the tunics.

A swelling of the epididymis is a very common consequence, particularly of that form of it dependent upon an irritation of the urethra. It does not appear that effusion of adhesive matter is often extravasated in the great seminal duct, which, when it occurs, proves a circumstance of a very unpleasant nature, as it forms an obstacle to the natural function of the part. The effusion seems usually to be in the cellular tissue. The *globus major* is the most frequent seat of disease in the epididymis, and when here, it is of less physiological importance than when it takes place in other portions of the organ.

There is only one other effect to which I will refer before concluding what I have to say under this head. It now and then is observed, that after the testicle has been much swollen, the enlargement subsides, as in other cases, by the action of the absorbents, but this decrease is not suspended when the testicle has reached the original size, and the absorption continues until the whole organ is removed, leaving only a rudiment of it behind. Nothing remains except the tunica vaginalis the tunica albuginea, and the septa of the gland, all of which are glued together feeling to the touch a little knot, hard and solidified. This is a serious effect, as it necessarily destroys the powers of virility, and, should both testes be subjected to this process, complete impotency must be the consequence. It is very rare, indeed, that this accident proceeds from the sympathetic inflammation, yet it should always be borne in mind that such a result is possible.



## TREATMENT OF ACUTE INFLAMMATION OF THE TESTICLE.

THIS being an acute disease, accompanied with much local and often constitutional excitement, the treatment must be directed on the ordinary contra-stimulant plan. If there be much fever, or if the patient be plethoric and robust, it is advisable to commence by depleting from the arm, after which blood may be drawn, topically, by means of leeches or by scarifying the veins of the scrotum with a lancet. This latter mode is in some respects preferable to leeches, for the bleeding may be effected without any of the disagreeable accompaniments of applying leeches to such parts. It is only necessary for the patient to stand before the surgeon, who takes the tumor in his hand, drawing the scrotum so tense that the veins are brought to a fixed position, when with the point of a lancet, he divides some of the veins transversely, which immediately allow the escape of a considerable quantity of blood. The discharge may be promoted by the application of warmth, as by placing the scrotum in warm water, or enveloping it in cloths that have been heated in hot water. The scrotum and testicles must afterwards be well supported by a suspensory bandage; and if the case be a severe one, it is indispensable that the patient place himself in the recumbent posture. This facilitates the return of the blood through the spermatic veins into the general circulation, and diminishes its action in the arteries by taking off the force of gravitation.

It is well to give a dose of calomel, in combination with jalap or colocynth. If brisk purgation be not obtained by these means, an infusion of senna, sulphate of magnesia, and cardamons, or any medicine which will produce copious watery evacuations, ought to be administered. Until the swelling subsides, the bowels must be properly attended to.

Cooling lotions should be kept applied to the parts. Diluted alcohol, vinegar and water, a solution of the sugar of lead, of hydrochlorate of ammonia, in the proportion of two drachms to a quart of water, or the acetate of ammonia, are all useful, and any one, or several, may be tried, as may be thought expedient by the practitioner.

When the active inflammation is subdued, warm poultices and fomentations are to be resorted to, and will rapidly reduce the swelling. The heat thus applied, has the effect of stimulating the absorbents, to remove what has been effused by the in-

flammatory process. The only rule to be observed in making the poultices, is to take care that they be not too thick and heavy. Warmth and moisture being the object in view, whatever will accomplish this end may be employed for the purpose.

In some cases it may be necessary to do more than all this, and emetics, or nauseating doses of the tartrate of antimony may be demanded. This medicine frequently acts like a charm, arresting the inflammation and "reducing the swelling," using Hunter's words, "almost instantaneously."

If there be much irritability in the patient, the best plan is to resort to opium, either in pill or Dover's powder.

Compression has been adopted with the most marked success, even in the early stage of the disease. The plan seems to have been devised in the Pennsylvania hospital, as long ago as the beginning of the present century, and with the happiest effects. It has lately been revived in Europe, and is claimed as new. Dr. Fricke of Hamburg is looked upon, I believe, as the modern author of this method. A



few days suffices, frequently, to produce a cure. Compression is applied by means of strips of emplastr. c. hydrarg., of about half an inch in width. The scrotum is laid hold of, and the testicle is forced to the bottom of its coverings. The bandages are now applied in circles, the first being placed around the origin of the cord, sufficiently tight to prevent the organ from changing its situation. The process is now continued around the testicle, making firm and uniform pressure, avoiding as much

as possible any folds in the skin. When the whole organ is in this manner enveloped, another series of strips are applied transversely to the first, to equalize the pressure, and give permanency to the whole. [*See the cut.*]

Should the pressure of the plaster occasion much pain, it should be removed until the sensibility of the part is diminished. It will usually happen, however, that if the plan will succeed at all, the sufferings of the patient immediately abate. The dressings must not be removed, when they can be borne, until they have become loose by the decrease of the testicle. They should then be taken off and renewed. In this way, diseased testicle, when the effect of sympathy, is often removed in four or five days.

Should it unfortunately occur that all our efforts to obtain resolution are ineffectual, and that the inflammation will proceed to suppuration, then fomentations and poultices, frequently renewed, and warm as they can be borne with comfort, should be kept constantly applied. The moment that fluctuation can be detected, the abscess ought to be opened, as the albuginea, being a fibrous structure, is slow in ulcerating, and therefore may cause extensive disorganization in the substance of the gland, from the confinement of the pus.

When the inflammation has subsided, there is generally a hardness and thickening remaining, together with an enlargement of the epididymis. This condition is to be got rid of by stimulating medicines applied to the part. Camphorated mercurial ointment, iodine ointment, the soap liniment or cerateum saponis, are all useful, and will commonly answer the indication. The emplastrum ammon. cum hydrag. may be worn on the scrotum with good effect.

Mercurials internally administered; the aqua potassæ, the iodide of potassium, the iodide of mercury, and whatever else can excite the action of the absorbents, are all calculated to produce beneficial effects, and I have derived good service from each.

The results of tartrate of antimony, when given after the method of the Italian school, in very large doses, have been perfectly astonishing in some kinds of enlarged testicle. Dr. Mackintosh relates several instances, when all other remedies had failed in chronic enlargement, in which he gave this salt in the *undissolved* state, eight or ten grains at a time, with the effect of causing very rapid absorption. The dose seems enormous; I have never tried it, but it is said that the stomach learns, after a few doses, to tolerate it, so that no vomiting ensues.



## CHAPTER XIX.

### VENEREAL INFLAMMATION OF THE TESTICLE.

THERE is one variety of inflamed testicle not usually noticed by authors, and which by some is even denied to have an existence, to which, in a few words, I shall pause to refer.

After the syphilitic virus has manifested itself in a constitutional form, there now and then may be seen a gradual swelling of one or both testicles, without any apparent cause of the ordinary kind, and which, therefore, has been attributed by Sir Astley Cooper to venereal influence. The reasons for supposing it to be of this character, are derived entirely from its history. It is generally accompanied with syphilitic sore throat, venereal eruptions, and periosteal inflammation.

The testicle, and epididymis, under venereal inflammation, become four or five times their natural size. The pain which accompanies the disease is not severe, but it is increased towards the evening. One testicle being enlarged, the other is apt to become affected; but in a majority of cases, the disease commences, probably, in both testicles simultaneously.

The complaint very rarely proceeds to suppuration; but when it does so, it produces a granular swelling, as in the chronic abscess.

When the venereal poison affects the testicle, it probably in the first place attacks the tunica albuginea, and thence extends into its interior fibrous, and not into its tubular part, as this structure most resembles the periosteum in its composition.

In illustration both of the disease and its treatment, I cannot do better than transcribe one of Cooper's cases. "A gentleman was the subject of a hydrocele, with



an enlarged testis, and it had been proposed by a surgeon who had attended him, to remove the latter, because, in attempting to tap the hydrocele no water had issued, and he had therefore concluded the disease to be a solid enlargement of the testicle only. I was then requested to see him; and he mentioned to me that he had some enlargement of the tibia, accompanied with nocturnal pains. I desired him to undress, and upon examining his skin, I discovered a venereal eruption upon the fore part of the chest and abdomen. I ordered him to undergo a course of mercury; and as the venereal eruption vanished, the node lessened, the nocturnal pains ceased, and the enlargement of the testicle disappeared: the hydrocele was then injected, and the patient got perfectly well. He has since married and had several children.”\*

There is strong reason for believing in the syphilitic nature of this enlargement, and it is desirable, at least, to know whether the opinion be well founded or not, that mercury is capable of speedily reducing it when it occurs under the circumstances as above related. In all Cooper’s cases, this medicine acted like a specific.

\* Sir A. Cooper on the Testis.

## CHAPTER XX.

### PHYMOSIS AND PARAPHYMOSIS.

WHAT constitutes phymosis. — What constitutes paraphymosis. — Their causes. — The effects of phymosis. — Treatment of phymosis. — The soothing method. — Operation by incision. — Operation by circumcision. — Treatment of paraphymosis. — Same general indications as in phymosis. — Gentle pressure and dexterous manipulation. — Operation with a knife for the reduction. — Subsequent treatment.

WHEN, from any cause, the free extremity of the preputium becomes so narrowed that it cannot be retracted upon the glans, but nearly, or entirely conceals the meatus urinarius, the case is termed phymosis. [*See cut.*]



When this same condition partially exists, so that it is possible to pull the prepuce behind the glans, but, when there, it is impossible to get it forward again by ordinary means, the case is termed paraphymosis. [*See cut.*]

Gonorrhœa and chancre are the most common causes, but inflammation, however excited, may produce such a constitution as to give rise to this accident. Chancre, and cicatrices on the prepuce, from their inelasticity, will cause the tightness attend-



ing irritability of the urethra, particularly in young subjects, and the malformation of birth, are other sources of this disease. The contraction is sometimes so great in phymosis, that on making water, it is unable to escape as rapidly as it flows from the urethra, and swells up the skin into a considerable pouch. It may arrest the emission of semen in coition, and thus prevent impregnation. Frequently it is accompanied with a purulent discharge, different kinds of sores, or with warty excrescences on the glans and its covering. In short, from the irritation excited by the filth which often accumulates beneath the prepuce of such subjects, almost any variety of inflammatory affection may be the consequence.

In the *treatment* of phymosis, we will frequently succeed by the soothing plan, emollients, bathing the part in warm water, and by attempting, gradually and perseveringly, to draw the prepuce back as far as possible. The preputial cavity should be washed out from time-to-time with milk and water, or any other bland fluid; and astringent injections, if there be much inflammation, may be thrown in with a syringe. The diet must be low, exercise avoided, the penis suspended, the bowels well moved, and, if the inflammation be very intense, accompanied with fever, blood may be drawn from the arm, and leeches applied to the penis.

When the case is bad, an operation is often required. The two which are most approved, I will describe. One is Circumcision, the other is Incision.

In the latter operation a director is introduced through the orifice of the prepuce, and passed down to the reflection along side of the frenum. A sharp pointed, curved bistoury is advanced in the groove until it likewise reaches the reflection.

The point of the knife is now raised, and brought through the skin, when a sudden stroke backwards completes the incision. It is but seldom that a ligature is needed to arrest hemorrhage. The integuments and the mucous membrane of the prepuce sometimes separate, leaving a large raw surface. To prevent this, a small suture should be passed between the membrane and skin on each side of the wound. On the second or third day the cellular tissue will have become consolidated, so as not to allow of retraction, and the suture may be removed.

For the first few days afterwards, emollient poultices should be applied. It may then be necessary for the promotion of the healing of the cut surfaces, to use a gently stimulating lotion. Œdema of the prepuce, should it remain, may be got rid of by bandaging.

By this operation all the inconvenience of phymosis is avoided. The skin will retract readily behind the glans, and there is not the awkward loose flaps that result from making the incision on the top or side.

The operation by circumcision, as it may be seen in the cut, was first performed by Ricord, and is conducted as follows:



*First period.* The penis being relaxed, without stretching the skin which forms the prepuce, a line is drawn with ink, which marks, in all its circumference, the oblique direction of the base of the glans, and about an eighth of an inch from it.

*Second period.* The prepuce is next drawn forward and fixed between the blades of a common dressing forceps, placed directly before the glans, behind the inked line, and held by an assistant.



*Third period.* The portion of the prepuce which projects beyond the forceps, is to be held by the operator with his left hand, whilst with his right he makes an incision with a bistoury, following the line traced with the ink.

*Fourth period.* After this section, the mucous lining, which by its anatomical disposition does not allow of its being drawn forward, like the skin, remains entire and covers the glans; to avoid a secondary phymosis, or paraphymosis, it should be immediately divided. This is done by dividing the mucous membrane with a single cut with the scissors on the dorsal surface of the glans to its base; then the flaps are removed around to the frenum, and with a single stroke, still holding the two flaps together, the frœnum is removed with them. The cure is complete in twenty or twenty-five days, and no deformity ever remains.

Should there be much bleeding, the arteries must be tied or twisted. The penis must then be constantly covered with cold water to prevent erections and inflammation. To avoid erections, the patient should also have camphor given in the form of pills.

In treating paraphymosis, we have the same general indications to accomplish that we have described in phymosis. Gentle pressure of the glans, so that its volume be reduced by squeezing the blood from its vessels, will sometimes enable us to slip the foreskin over it. When the soothing plan fails, and serious consecutive accidents are impending from strangulation, an operation must be resorted to for relief. If too long deferred, the glans is apt to mortify, from an arrested circulation.

The operation consists in making a nick in the contracted edge of the prepuce. No extensive cutting is required, provided the knife be applied to the proper spot. Having made the incision, by adopting the method above recommended, the reduction will easily be effected. In all these cases, there usually is considerable effusion, which may be treated by fomentations, rest, and low diet, and in a few days it will be dissipated. If the tissues have become adherent to each other through an effusion of coagulable lymph, the difficulty of relieving the stricture is greatly increased.

## CHAPTER XXI.

### GLEET.

Its definition.—Commonly succeeds gonorrhœa.—Its infectious character considered.—Proceeds from debility.—Various exciting causes.—Its treatment.—If there be general debility of the system, tonics, and remedies for the improvement of the general health.—Astringent injections: the manner in which they should be used.—Stimulants and bougies.—Rule for employing them.—Cauterization.—Glands of Cowper affected.—Treatment.—Bougies and blisters: Cauterization: Counter-irritation.—Scrofula an occasional cause: treatment.—Stricture: treatment.—Diseased prostate: treatment.

THIS is a disease which is commonly the sequel of gonorrhœa, and indicates a chronic inflammation of the mucous membrane of the urethra. It is characterized by a thin, watery discharge, having the consistency and appearance of mucus, and is, no doubt, a true secretion of the mucous follicles and glands that exist in this part.

It succeeds, usually, a thick, purulent secretion of matter, which accompanies an acute inflammation, and when it follows gonorrhœa, it may be said that no small difficulty exists in determining whether it is infectious or otherwise. On this subject the opinion of medical men vary, owing, no doubt, to the want of precise knowledge as to what constitutes the affection under consideration. Where the one terminates and the other commences, is not always easy to decide. Of this we can only judge from the history of the case, and the appearance of the discharge. What

one medical man may term gleet, another may believe to be gonorrhœa; and this want of accuracy springs, I apprehend, from the difference in the views entertained by various persons respecting the time when the matter has ceased to be infectious. Nearly all unite in saying that gleet is incapable of reproducing in another individual the symptoms of gonorrhœa. When the discharge has become almost or quite colorless, and of a gunimy consistency, like mucus, it may be believed that it will not communicate infection. There are those who suppose that, long before this period, it is often quite harmless.

Gleet may likewise arise from any other cause that, in the first instance, can awaken an inflammation, or, perhaps, even an irritation of the lining membrane of the urethra. The pathological condition of this membrane, when such a discharge is present, I conceive to be, commonly, one in which there exists a decided degree of debility in the organs secreting the mucous fluid. This view was denied by Hunter, who supposed that in all cases when there was an increased secretion in a part, there must also be increased functional action. At first sight, this proposition, it must be acknowledged, strikes one as being very plausible, and in correspondence with what would naturally be expected. But, I imagine, there is an absolute deficiency of tone in the membrane, just as may be observed in some forms of dropsical complaints, when the tissue no longer possesses the power of resisting the force with which the circulation is impelled, and its serous parts escape into the cellular substance, cavities, or upon the mucous surfaces. It is not essential to the force of this opinion, that the effusion shall, in all the various cases, be physically identical. There are many circumstances to modify it; and it must be believed that difference in the exhaling surface or organ, may, at least, have some effect in altering its properties. The glands secreting mucus, I suppose, in consequence of long protracted, or severe disease, become much debilitated, and sometimes organically altered. The blood is still supplied to them in quantities as great as when in health, but they have lost their capacity of elaborating from it that fluid, which, in a normal state, it is their function to produce. The watery elements of the blood, being thinnest, readily find their way through the intestinal substance of the gland, mingle with what may be considered as imperfectly secreted mucus, and thus, by the combination of these two elements, a gleety discharge ensues.

There are certain facts, which, if they do not furnish direct evidence in support of this view, at least very strongly corroborate it. The amount of secretion does not



seem to bear a direct proportion to the excitement of a part. If the inflammation of the mucous membrane be intense, it is well known that the mucous discharge is sometimes wholly arrested. This is often observed in the lungs as well as in the urethra, and the most certain sign of a mitigation of the affection, is an increased expectoration. Our remedies, therefore, when such an accident occurs, are selected with an especial view of soliciting such a discharge; and it so happens, that they are those which have most influence in subduing high inflammatory action.

It will be understood, from what I have said, that gleet is not always dependent upon a venereal cause. A certain condition of the mucous membrane, whatever be the primary affection, is all that is necessary to constitute the disease. We therefore have gleet, resulting from intemperance, gravel, calculi, venereal excesses, masturbation, acrid urine, ulceration, cold, stricture, or any other cause of inflammation, which may degenerate into the chronic state.

I have enumerated stricture among the causes of gleet, but I am by no means so willing to acknowledge it as so common a one as many authors assert. The two pathological states very often exist, certainly, but I do not see why it would not, in most instances, be quite as logical to say that stricture is the consequence of the gleet condition, as to reverse this order of cause and effect. Looking at the history of the two affections, it will usually be found that gleet has existed long before stricture makes its appearance in the urethra. In ninety-nine out of a hundred instances, such is the fact. The symptoms of stricture are always very slow in developing themselves; and months, or even many years elapse before obstructions in the canal present themselves. Not so with gleet. This is a direct and early sequel of acute inflammation; and, when long continued, there is, ultimately, the new symptom of stricture.

The fact seems to be, that both stricture and gleet are dependent upon the same morbid cause—a chronic inflammation of the urethra; but gleet is the soonest and the most constantly developed. When stricture is finally formed, it becomes, I know, a fresh source of irritation of the mucous membrane situated between it and the bladder. A new series of pathological actions and reactions will now probably take place,—the stricture grow more formidable, and the gleet discharge be increased.

I do not mean to assert that, in no instance, can there be a gleet without inflammation. Such forms of it do, perhaps, occasionally present themselves. With no



previous inflammation, this kind of discharge may, possibly, arise; but I can truly say that I have never yet met with a well established case. I am inclined to make this admission, not because I have had any direct proof to satisfy me, nor even because others have argued for it, but because there are certain analogical reasons for adopting such a conclusion. Leucorrhœa in women is a discharge that may be considered as often strongly resembling that of gleet. It comes on without any apparent inflammation, merely from relaxation of the membrane; is long continued, and frequently very difficult to cure. It is from such facts that I conclude it to be possible to have gleet as the result of simple debility.

Thus much upon the various causes of gleet; but that which most interests us is the species of gleet which is the consequent of gonorrhœa, both from the reason that it more properly belongs to the diseases of which this book especially treats, and also because it is much the most frequent, most obstinate, and may, sometimes, communicate a venereal disease.

If the virus of gonorrhœa be exhausted, sexual intercourse can be indulged without danger of infection; but as there is much uncertainty in deciding when this condition is reached, it should always be deemed hazardous to make experiments. The best plan, obviously, is to get rid of the discharge, and avoid risks. It is sufficient to know that unpleasant results *may* sometimes ensue from our imperfect knowledge of what is and what is not contagious, to make us very cautious in expressing to patients an opinion respecting the infectious character of the running.

#### TREATMENT.

THERE is scarcely any disease that we are called upon to treat, which requires more judgment, patience, and a more varied application of the resources of the healing art. He who expects to remove this affection by any particular remedy, under the delusion that the proximate cause is always precisely the same, will, in practice, find himself wofully disappointed.

Should gleet be accompanied with general debility, general tonics must, in the first instance, be resorted to, and every condition removed which can keep down the vital powers. The secretions of the liver and bowels must be duly regulated; the stomach must have no duties imposed upon it which it cannot readily perform; while the food should be nourishing, without being highly stimulating. The general tonics

embrace a wide scope. If the patient look exsanguineous, some of the ferruginous class are to be preferred, or they may be given, combined with a bitter vegetable. I prefer in these cases, the tincture of the muriate of iron; and there are many instances in which it may be administered very advantageously with the tincture of cantharides. If iron be contra-indicated, the compound infusion of gentian, with the compound tincture of cardamons, will often prove of the most decided benefit. These remedies, however, may be varied according to circumstances; and, should one fail, others may successively be tried. But while we are pursuing the constitutional treatment, we will find, often, that, although the patient is improving in general health, the local disease seems to be growing worse. Greater quantities of blood are conveyed to the debilitated tissue, and an increased discharge occurs sometimes, perhaps, by re-exciting a higher grade of inflammation, but, usually, because the atonic condition of the membrane cannot resist the pressure of the blood, the watery elements of which are exhaled somewhat in the same manner as in dropsies of other parts. Attention, therefore, must constantly be directed to the expectation of this occurrence; and it will, generally, be advisable to use astringent injections in conjunction with the constitutional means. Solutions of sulphate of copper, sulphate of zinc, or sulphate of alum, are very serviceable. In short, it is impossible to particularize any single article, or formula as superior to others, for I have frequently seen one answer with this patient while with that it was quite without effect.

The majority of cases require no general treatment whatever, and local remedies only are indicated. Such astringents as those above mentioned, may be first used, and very often they will prove to be sufficient for a cure. There are some others, which, these failing, may be resorted to, and for which I shall give formulæ at the close of the book. They may be used without any danger of unpleasant consequences, and therefore, should have a fair and full trial. There is one fact in using injections of this nature which I wish particularly to impress upon the reader. It happens, constantly, that medical men are disappointed in using injections from the very inefficient way in which they are employed. It is not enough to throw into the urethra an ordinary solution but three or four times a day, or to inject it and permit it to escape again as soon as the instrument is removed from the orifice of the canal. It ought to be repeated every hour or two, and at each time, it should be confined in the urethra for two or three minutes, or until there is a slight sensation of smart-



ing. This gives the medicament an opportunity of making an impression, and when this is again and again renewed, so that its influence is all the time maintained, we shall have reason many times to feel delighted with the effects, while, by the usual trifling practice, we should have met with nothing but disappointment. From being improperly or only half administered, the best means are too often unjustly condemned, the fault lying either with the practitioner or the patient, and not with the remedy.

Having given the astringents a thorough test without any beneficial result, it would, of course, be perfectly idle to persist any longer in their use. They should now be laid aside, and a different plan adopted. There being no pain, or but very little, we are at liberty to conclude that the stimulating treatment will answer better. Here again we have a great choice of means — acrid solutions as injections; balsam, cubebs, turpentine, etc. given internally, and bougies. The internal and local means may be simultaneously employed, and probably with better effect than if either be used alone. Whichever may be had recourse to, it should most commonly be a principle in the treatment to avoid using them so strong as to excite any considerable degree of inflammation. A moderate sense of heat in the urethra is quite sufficient to begin with: if the milder means be ascertained, upon trial, to be inadequate, the irritation may be increased by making them stronger; or, if the bougie be selected, by adopting such methods as may be necessary to give it greater power. Some of those which answer as astringents, if the strength be increased, will answer very well as stimulants. But that which I prefer above all others, is a solution of nitrate of silver. I commonly begin with it in the proportion of one grain to the ounce, and either make it stronger or weaker, as circumstances may seem to require. There are cases in which I have even ventured to use it in the proportion of two hundred grains to the ounce. It is obvious, that, in this instance, the effects are no longer those of a stimulant, but of an escharotic. On this principle I so employed it, and I am happy to add, with the most complete success. I do not, however, recommend this strength to others, because, if cauterization be desirable, it is far better to employ the caustique-holder to attain the end — a method that is neater, more surgical, and more certain, without being liable to the objection of cauterizing parts that do not need it. The cauterization should be very slight when it is done at all, and therefore ought to be performed very rapidly. It but seldom is the case, however, that it is needed. The end we have in view, can generally be reached by

simpler, and what are thought to be milder measures. The following formulæ are also very useful, and may be tried in such cases :

R. Liquoris Cupri Ammoniaci, M. xx.

Aquæ Rosæ, ℥. iv. M. Or the

R. Hydrarg. Bichlorid. grs. ij.

Aquæ Destillati, ℥. iv.

In ordinary gleet, without complications, this treatment will always bring about a cure.

We proceed now to notice another variety much more difficult to manage. If the original inflammation has extended beyond the bulb of the urethra, and persisted for a considerable length of time, the glands of Cowper, and their excretory ducts leading to the urinary canal, become in like manner diseased, and render the affection far more perplexing to treat. We may now use astringents and stimulants without any further effect than to reduce the discharge which proceeds from the small superficial glands of the membrane. The large and deep-seated are not reached by the remedies, and no impression, therefore, is made upon them. When we find the case to be of particular obstinacy, we may conjecture that we have one of this variety. If, in addition, there be considerable tenderness in the perinæum, and if the matter appears to come from a distance from the meatus, which may be ascertained by judiciously directed pressure along the course of the urethra, we will seldom be wrong in assuming that the glands of Cowper are implicated.

Injections must now be abandoned. Bougies, and blisters applied to the perinæum, are the remedies to be adopted. The bougies should be as large as the capacity of the urethra will easily admit, so that they excite a moderate degree of inflammation, without doing mischief. Small ones, unless there be stricture to overcome, glide along too readily to produce any salutary results, and we had as well do nothing as use such instruments. In a few days we will generally witness the good effects of this method ; but we are not to suspend this proceeding so soon as the gleet has abated. The relief will otherwise be only transient. The cure has now merely begun, but is very far from being perfected. The bougies should be persisted in for many weeks, and then, if the discharge has ceased, we may venture to feel assured that the disease will not return.

It is advisable during the progress of this treatment, occasionally to lay the bougies aside for a few days at a time, in order to ascertain, if the discharge continues,



whether it is caused by the original irritation and debility, or whether it may not be caused by the irritation which the bougie has excited in the urethra. It is easy to see the policy of this plan; for our remedy may be keeping up the running, which we are in vain trying to stop. If the result of the experiment be favorable, then are our hopes encouraged, and we may properly persevere. But if otherwise, and the instrument has been employed long enough to give salutary fruits, and yet the discharge is unchecked, we ought to relinquish this simple treatment. It is now time to try the effects of cauterization. The porte-caustique, armed with nitrate of silver, should be freely and boldly introduced to the part which is the seat of the disease, and the operation repeated according to circumstances, once or twice a week. By this course, I have often succeeded with the most stubborn cases, when every thing else had utterly failed.

When the bougie and cautery fail, we may try the virtue of blistering on the perinæum. This is a practice I am always reluctant to resort to, as it is particularly annoying to the patient, on account of the inconvenience experienced in dressing the blistered surface, in walking about, and on account of the pain it inflicts. A single vesication can scarcely be expected to do much good. It must be repeated as soon as the first blister has healed. By thus continuing the blistering process for some time, we will occasionally have the satisfaction of seeing it effectual. Or, after having opened an external discharge, we may convert it into an issue by dressing a small spot with epispastic ointment. Perhaps this latter method is to be preferred to the other.

There are other ways of making counter-irritation, which I need not speak of, as they are not likely to be of more service than those above indicated. Every medical man has his own preferences. As I consider that it is the *fact* of derivative action, and not the *mode* of exciting it, which is essential, I forbear to spend time in dwelling longer upon a mere matter of fancy.

It sometimes happens that the gleety discharge is continued in consequence of a vitiated condition of the constitution. Scrofulous patients can scarcely be hoped to be cured by merely local means. When we have such persons to deal with, sound judgment suggests the internal exhibition of medicines, which experience has proved useful in the general affection.

If we find enlarged lymphatic glands about the neck, and the complexion of the patient present the hue which is the sign of a scrofulous constitution, then the thera-

peutical indications are clearly in favor of some of the various preparations of iodine, commonly combined with a tonic. It will nearly always be found, unless there is a special contra-indication, that the iodide of iron will prove superior to everything else. Sea-bathing may also be resorted to; and this is a remedy, which, when it can be conveniently used, is of very great value, and should never be neglected. Sponging the body with salt and water every day, beginning with it moderately warm, and reducing the temperature as the body becomes accustomed to the cold shock, is a good substitute for sea-water. The clothing should be ample, to preserve the surface from cold, and sudden atmospheric changes. In fine, everything must be adopted, both as respects medicines and regimen, which can invigorate the powers of the system, and counteract the morbid effects of a feeble performance of the functions of nutrition.

When the discharge is maintained by stricture, the remedy, of course, is that which will remove the obstruction. Here our great resource is the bougie. Such cases I always cure readily by using this instrument. I shall say no more touching this cause than to advise, in all instances, when a patient laboring under gleet presents himself to us for assistance, to pass the bougie at once with the view of determining at the outset whether a stricture exists or not. If a coarction be discovered, it is judicious, in the first instance, to remove it, by which means we may, perhaps, immediately relieve the patient, or, at least, we shall extricate ourselves from a vexatious complication.

A chronic running from the urethra may be kept up by a diseased state of the prostate gland. It is highly important to diagnose this condition, as the ordinary remedies for gleet in such cases are actually worse than useless.

There may be merely a disease of the urethra of this part, which will manifest itself more by a frequent desire to make water than by pain. When such is the case, the bougie will probably be found a sufficient remedy, and I believe that cubebs, acting as a gentle stimulant, will often do much good.

When, however, the *substance* of the gland is affected, the cure will be more difficult. If the patient be young, we may anticipate that, ultimately, he will be restored to health. Abscesses may form, which, if necessary, must be opened. Opiates will frequently be required; but it happens too often that our whole treatment can be little better than temporizing. The strength should be maintained by tonics, of which the sulphate of quinine, or iron is the best. In some instances, particularly

if scrofulous symptoms present themselves in other parts, the iodide of potassium will prove a very valuable medicine. By adopting such treatment, and whatever else the varying symptoms seem to demand, we shall usually succeed in getting the patient through his sufferings, and restore him once more to sound health and strength.

In those gleets which may be induced by the occasional causes that I have named at the beginning of this chapter, we cannot hope to afford the patient much service, so long as the first cause continues. Thus, if an irritation of the urethra succeeds to gravel, or acrid urine, &c., our first care is to correct that state of the system which favors such conditions of this excretion. The sabulous deposit must be prevented by those means that the nature of the earthy matter suggests; and the irritating urine should be corrected by the internal administration of such substances as will act chemically upon its constituents, and restore it to the healthy state. This being accomplished, we shall have no obstacle to a radical cure; to bring about which, it is advisable to proceed according to some of the methods already detailed in the previous pages.



## CHAPTER XXII.

### STRICTURE OF THE URETHRA.

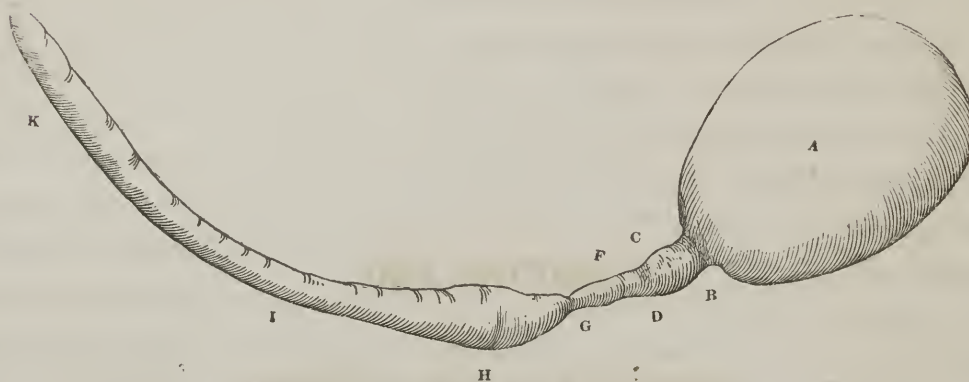
Definition of Stricture. — Its cause. — Plate of urethra. — Dimensions of urethra. — Varieties of stricture. — Their symptoms. — The opinions of Hunter and Home controverted. — The seat of stricture. — Retention of urine. — Some of the consequences of stricture. — Diagnosis. — Mode of introducing catheters.

THE affection of which I have now to treat, is another link in the chain of morbid phenomena proceeding, usually, from inflammation of the urinary canal. Stricture is commonly a sequel of gonorrhœa. Some authors allege that it is so as often as ninety-eight out of a hundred cases. Without giving any decided opinion upon this question, I cannot doubt that such statements, although exaggerated, have a very strong show of truth. In an immense majority of instances, stricture has a venereal origin.

Stricture, in a general sense, is either a partial or complete closure of any passage of the body, and occurs in the œsophagus, the windpipe, the intestines, in the urethra, &c. Fortunately, it is a very rare accident in any of the first named passages. In those situations, though not absolutely fatal, it is always attended with the greatest danger. In the urinary canal, it is constantly met with, and, without often putting life in jeopardy, when surgical assistance can be promptly obtained, it is usually productive of much distress and inconvenience.



The urethra is intended for the discharge of the urine, semen, prostatic liquor, and the fluid secreted by the glands of Cowper. It passes above the lower extremity of the rectum, and immediately beneath the symphysis pubis.



EXPLANATION OF PLATE.

THIS cut represents a cast of a strictured urethra, taken by Home, which was made by injecting the canal with wax, and afterwards cutting open the urethra and removing the model, that formed a bougie of the exact size of the canal, and was impressed with all its natural irregularities.

The drawing is reduced to one half the dimensions of the original. The cast was taken from the urethra of a man thirty years of age.

A. The bladder. B. The neck of the bladder. C. The canal which passes over the prostate gland, and extends from B. to D. F. The membranous portion of the urethra. G. A natural reduction of the calibre of the canal, directly behind the bulb; but in this case it is somewhat smaller than usual, in consequence of a stricture which had formed here. This is the situation in which stricture is most commonly found, and which, more than any other part, is subject to obstructions of this nature. H. The bulb of the urethra. I. A portion of the canal slightly narrower than the rest. K. The fossa navicularis, a natural enlargement, about three-fourths of an inch from the orifice of the urethra.

The length of the canal has been variously estimated by different anatomists, some having put it down as being not more than seven and a half inches, while others have exaggerated it to twelve. In order to determine this point, M. Whately measured the urethra of forty-eight subjects, whom he divided into three classes, viz:—the first of high, the second of middle, and the third of low stature. In each of these classes, however, there were some differences in size, and in many of

them considerable variations in the length of the projecting parts of the penis. The following is the result of his measurements :

*High Stature.*

*Length of Urethra.*

INCHES. LINES.

In 1	.	.	.	.	.	.	.	10	
8	.	.	.	.	.	.	.	9	6
5	.	.	.	.	.	.	.	9	
2	.	.	.	.	.	.	.	8	6

*Middle Stature.*

In 3	.	.	.	.	.	.	.	9	6
1	.	.	.	.	.	.	.	9	3
7	.	.	.	.	.	.	.	9	
2	.	.	.	.	.	.	.	8	9
7	.	.	.	.	.	.	.	8	6
2	.	.	.	.	.	.	.	8	3
1	.	.	.	.	.	.	.	8	

*Low Stature.*

1	.	.	.	.	.	.	.	9	3
2	.	.	.	.	.	.	.	9	
4	.	.	.	.	.	.	.	8	6
2	.	.	.	.	.	.	.	8	3

These investigations show the medium length of the canal to be eight inches and eleven lines. My own experiments, which have been repeatedly made with the same view, confirm the general accuracy of Mr. Whately's table.

Lisfranc found, in some of the subjects which he examined, that the urethra measured eleven inches ; but it is obvious that in this statement there is great probability of error. It is, indeed, declared by some authors of eminence, that it never attains such a length in Europeans, but that in the negro, it may, possibly, sometimes be the case, as their genital organs, both in the male and the female, are more largely developed.

The diameter of the urethra, is, perhaps, of more practical importance to be accurately known, than the length ; for, unless we have a correct knowledge of the

strictured canal when in the healthy state, we can scarcely hope to meet with complete success in restoring it to the natural size.

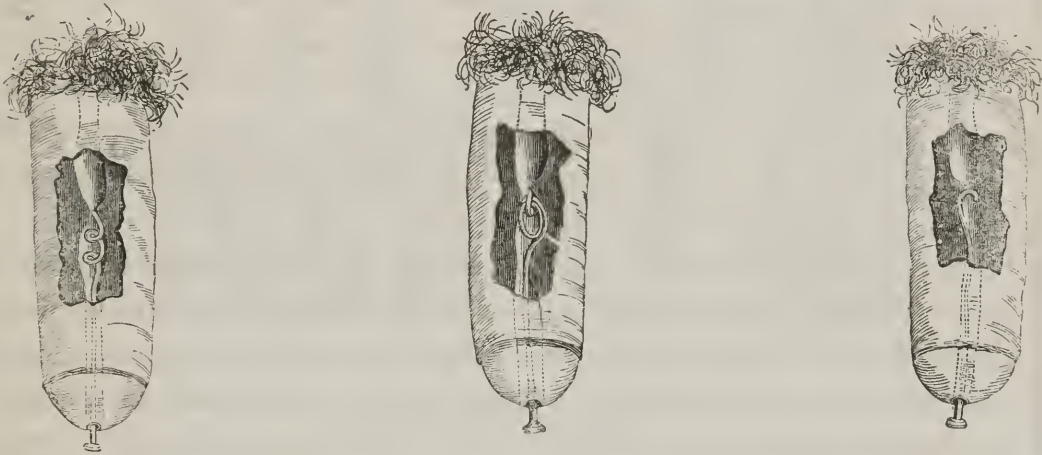
The only observations on this subject, so far as I know, which have been published to the world, are those of Home and Lisfranc. Sir Everard Home injected the urethra, as described in the preceding cut, of two persons, one of whom was between seventy and eighty, and the other thirty years of age. In both of them the penis was of small size, and the external orifice, at the glans, unusually small in the collapsed state. The following is a view of the diameters :

	AGE 80.	AGE 30.
	<i>of an Inch.</i>	
At three-quarters of an inch from the external orifice, .	$\frac{9}{20}$	$\frac{7}{20}$
At four and a half inches from the external orifice, .	$\frac{7}{20}$	$\frac{7}{20}$
At seven inches from the external orifice, (at the bulb,) .	$\frac{12}{20}$	$\frac{13}{20}$
At seven and a half inches from the orifice, at the commencement of the membranous portion, (where in the younger subject, there was a stricture,) . . . .	$\frac{7}{20}$	$\frac{4}{20}$
At eight and a quarter inches from the orifice, near the termination of the membranous part, . . . .	$\frac{9}{20}$	$\frac{7}{20}$
At eight and one half inches from the orifice, where the membranous part terminates, and the prostate gland begins, .	$\frac{7}{20}$	$\frac{6}{20}$
At eight and three-quarters inches from the orifice, in the middle of the prostate gland, . . . .	$\frac{11}{20}$	$\frac{10}{20}$
At nine inches from the orifice, the neck of the bladder, .	$\frac{9}{20}$	$\frac{8}{20}$

It ought to be borne in mind, that the dimensions as given above, are those that the urethra will acquire when fully expanded, and much beyond the size on ordinary occasions.

I know of no reason why stricture of the urethra should ensue more frequently from gonorrhœa, than from any other species inflammation. No reason, surely, can be found in the specific nature of the virus; and, whatever opinions others may entertain, it is mine, that specific disease exerts no specific effect — the constriction being wholly the consequence of an ordinary inflammation or irritation. In

a given number of cases, I believe, however, that gonorrhœa will, more frequently, produce stricture than inflammations depending upon other causes. This result I explain by the fact that the inflammation of gonorrhœa is usually much more protracted than any other, and too often ends in the chronic kind, which may continue for many months, or even years, during all of which period, the mucous membrane of the urethra is becoming more and more diseased, and is gradually laying the foundation for a permanent stricture.



EXPLANATION OF PLATES.

These cuts, representing the appearances strictures present, show small bougies introduced up to the obstruction, and doubled back upon themselves, as will happen when the instrument fails to find the passage, and is still pressed onward.

I have said that the cause of stricture is usually inflammation, and that gonorrhœa is the most frequent exciting cause. From what I have also said, it will be understood that whatever else can arouse inflammation, may, in like manner, be an exciting cause. Thus calculi, gravel, venereal excesses, masturbation, cold, acrid urine, etc., may be said to be, occasionally, a cause of stricture, because they all will produce urethral inflammation.

Strictures have usually been divided into three varieties — the Permanent, the Spasmodic, and these two, in combination, the third variety.





Porte  
Empreinte.

The first of these varieties is *organic*. It arises from an actual change in the substance of the urethra. This may be subdivided into several others, each one depending upon the pathological changes which the tissues have undergone. So long as the inflammation be confined to the mucous membrane, there will probably be merely a thickening, or a kind of hypertrophy, which may or may not be accompanied with fleshy vegetations, or fungous granulations. This condition may cause a stricture of considerable extent, reaching, sometimes, for an inch or two along the canal; and, indeed, I have met with cases in which there was a reduction in its calibre throughout its whole length. This thickening most commonly takes place only on side of the conduit; and, in practice, it is a matter of some moment to know which side may be thus effected, as such knowledge diminishes the difficulty of introducing, readily, the bougie. This may be accurately ascertained by means of the instrument seen in the margin.\*

If the inflammation have extended beyond the tissue originally involved, and established itself in the subjacent ones, the diameter of the urethra will be reduced by an effusion of coagulable lymph in the corpus spongiosum, which, becoming there organized into a fibrous structure very dense and inelastic, presents an obstacle to the passage of urine more obstinate than that of which I have already spoken. Strictures of this description are designated the *indurated*, on account of their great hardness. There are other strictures resembling this variety in their nature, but they present themselves in a somewhat different manner. The lymph, instead of being poured into the cellular tissue, is effused into the urethra through an opening made in the mucous membrane by ulceration. Here it becomes concreted and organized. At other times it is effused upon a limited surface of the mucous membrane, forming a kind of bridle — a mere curtain — or it may create an obstruction precisely as if a thread were drawn tightly around the penis. Sometimes, though seldom, there is an extensive effusion of lymph over a great surface of the canal,

\* The *porte empreinte*, or model sound, is formed by taking a hollow bougie, through which is passed a strand of cotton thread, leaving about half an inch of it projecting beyond the inner extremity of the bougie. This is dipped into a composition made of equal parts of bees-wax, diachylon, and shoe-maker's wax, and allowed to cool. It is then rolled between two pieces of wood until it is made quite round, smooth, and of the diameter of the other portions of the bougie.

which becomes, at length, a false membrane, such as may be observed in the larynx and trachea of children severely affected with croup. I may here mention that the hardened base of an old chancre, is another occasional cause of stricture. It is unnecessary to refer to any other of the causes, as they are rather curious than important in practice.



EXPLANATION OF PLATE.

THIS plate represents different forms of strictures, with impressions that have been taken by the model bougie, (*porte empreinte*). *Figures 1, 2, 3, 4*, show urethras with the passages nearly closed. *Figures 5, 6, 7, 8*, show the impressions of them which have been made with the *porte empreinte*. Those without numbers are impressions of the like kind, which further exhibit the great variety of shapes that strictures assume.

The second variety — the *Spasmodic* — is one, the existence of which is wholly denied by some surgeons of eminence ; but there are such good reasons for believing that strictures of this nature not unfrequently occur that, for my part, I no more doubt the spasmodic, than I do the permanent kind.

It is a common thing to see patients suddenly attacked with a retention of urine. After a free indulgence in the pleasures of the table, and partaking liberally of acid wines, or punch, persons often find, when they attempt to urinate, that not a drop will pass. The same sudden obstruction may take place from cold, from the application of blisters, as related by Home, who ascertained by introducing instru-

ments, that it was not mere strangury from irritation at the neck of the bladder, but an actual spasm just behind the bulb of the urethra.

Whenever a difficulty happens in a *sudden* manner, it must be from spasm, whatever may be the cause inducing it, and this may be any thing which will excite irritation.

The remedies to which we resort for relieving such cases, also prove, in an indirect way, the nature of the affection. Opiates, the warm bath, hot fomentations to the perinæum, and, in short, every remedy, internal and external, which are known to possess an anti-spasmodic effect, are employed with benefit. Were the stricture of the permanent kind, such results could not be expected, or, if they were, there would only be disappointment.

Facts like these convince me that the idea of spasmodic stricture is well-founded. I do not, however, believe that the urethra is muscular, as was conjectured by John Hunter, Sir Everard Home, and other writers who lived before them. It is, I imagine, possessed of certain contractile properties throughout its whole extent; and it is its capacity for *dilatation* which gives rise to the phenomena that have been mistaken for muscular actions. The accelerator urinæ muscles, and the muscle of Wilson, as it has been called, which surround the membranous part of the urethra, are the true agents of spasmodic stricture. It is at this point that permanent obstructions most frequently form: therefore it is probable that the irritation and inflammation producing the one may also be the cause of the other. Spasm is the consequence of irritation, and when this is long continued, structural changes occur that form strictures of the permanent kind.

There is no difficulty in perceiving how these two kinds may be united, as they both are seen succeeding the same abnormal conditions. If irritation, transiently excited, can produce spasm, when longer continued there is no reason why it may not manifest the same effects. But there is, besides, every reason for believing that when a permanent stricture already occupies the canal, a more exalted grade of irritation may suddenly be induced, by accidental circumstances, just as might happen if no permanent stricture existed. The two causes concurring, an obstruction of the mixed kind will require the surgeon's aid.

This, I apprehend, is the variety of stricture of most usual occurrence; and as in retentions of urine a permanent stricture is commonly met with, the notion has been taken up that all strictures are, essentially, of this nature.



**THE SEAT OF STRICTURE.**— There is a curious fact connected with the situation of stricture, which, by some surgeons, is considered almost unaccountable. It does not, it is true, always appear at the same place ; but, in a large majority of instances, it is found immediately behind the bulb, and anterior to the membranous portion of the urethra. There may be strictures in other parts of the canal, but if there be, we are nearly certain of finding one here also. By some, this has been referred to a predisposition in this spot to inflammatory action. The cause is to be found in the triangular ligament of the perinæum, and in the arrangement of the muscles of the urethra, which act on this portion. To my mind, the circumstance is in this way satisfactorily explained. Here the urine is liable to be checked by a muscular contraction ; and when the contraction occurs frequently, or is continued for a considerable length of time, a kind of strangulation is produced, or, at least, increased hyperemia and inflammation. Let me demonstrate my view by a synthetical process. Suppose we have a case of gonorrhœa, the inflammation commencing at the meatus. It extends gradually backwards until it reaches the triangular ligament. The muscles now sympathize, and contract strongly, producing, perhaps, a difficulty in emptying the bladder. As yet, however, there is nothing worse than a spasmodic stricture. This morbid action, being long continued, the irritation in this place being kept up, after it is subdued in other parts, by the muscular movements and the retention here of a small quantity of urine, which becomes a new source of irritation, there is, ultimately, a transformation of the tissue, and a stricture of the permanent kind is established.

There is no part of the urethra exempt from permanent stricture, but it is a very rare thing to find it in the prostatic portion.

**THE SYMPTOMS OF STRICTURE.**— Wherever be the seat, or whatever the variety of stricture, its effect is, under all circumstances, to produce a retention of urine, which is more or less perfect, according to the degree of the obstruction.

The advance of stricture is generally slow, and it is but seldom seen in persons under the age of puberty ; after this period, until the age of forty-five, it is common ; beyond this time of life it is less frequent, though it still is not of rare occurrence.

Should a man who has not got beyond the middle period, consult a surgeon, complaining of a difficulty in making water, it is probable that he is laboring under stricture. The same conclusion may be drawn from the symptoms of an old man, provided he had experienced some difficulty for several previous years. But should



he declare that the obstruction was only of recent occurrence, then there is probably an obstruction from an enlarged prostate gland.

When the membranous portion of the canal is the seat of stricture, the patient may have complete retention much earlier than if it is forming upon any other point, for the reasons that I have submitted in my remarks upon the seat of the disease. At its origin, the disease, when situated here, is almost wholly spasmodic. The retention comes on suddenly, and is the consequence of irregularity in eating, or a debauch, or, indeed, whatever can arouse an inordinate degree of irritation in the urethra.

The first symptoms of permanent stricture make their appearance so insidiously as scarcely to attract any attention. The urine flows in a smaller stream, which is twisted, or forked. The water is passed slower, but the patient experiences no inconvenience beyond a slight scalding during the moments of its evacuation, with an itching or uneasiness along the course of the canal, and a sense of heaviness at the perinæum. Gradually the stream becomes more slender and feeble, a longer time is required to make water, and less is passed at once; a desire is more frequently felt, so that the patient is obliged to rise several times during the night. At length it is impossible to void the urine without considerable straining and long continued efforts, which are accompanied with much pain and swelling of the penis. When the patient has discharged as much as possible at one attempt, by renewing the effort it will be discovered that he is capable of voiding more, and, therefore, that in the first instance the bladder had not been completely emptied. Having retained his water for some time, he experiences a sense of weight in the groins, and pain above the symphysis pubis; and upon making pressure over the latter spot, a severe pain will be felt, with a strong inclination to urinate. This proceeds from a greatly distended bladder.

The difficulty of making water continues slowly to increase; the stream becomes more thread-like, and at length may issue with so little force that it can no longer project itself in a jet, but falls directly from the orifice of the urethra between the legs. This last symptom takes place, it is believed by Lallemand, in consequence of there being several strictures in the canal instead of one, and with this opinion I am inclined to accord.

There are patients in whom the symptoms indicate a yet more wretched condition. The water only escapes the guttatim, and the quantity made at each attempt

is very small. They are tormented with an incessant uneasiness and desire to relieve the bladder, and nearly half their time is consumed in this employment. The patient is reduced to such a strait that he is obliged to place himself in the attitude assumed at stool, that he may the better make the necessary expulsive efforts; and it sometimes happens that the contents of the lower bowel are discharged involuntarily at the same instant. This violent straining occasionally causes a hernia, increasing thus the maladies of the patient, and compelling him to harness himself with a truss. The sphincter ani muscle is at length relaxed by the constant pressure upon it; the rectum descends, and constitutes prolapsus; bleeding piles are complicated with it; the intestine is at last, perhaps, sympathetically irritated, and a troublesome diarrhœa is joined to all the other miseries that nearly overwhelm the sufferer.

If the patient be not relieved, his sufferings go on increasing. The constant fullness of the bladder, and of that part of the urethra behind the stricture, end in chronic inflammation. This reacts on the disease in front; the prostatic gland becomes diseased and swollen; the inflammation extends along the ejaculatory ducts to the vesiculæ seminales, causing frequent involuntary seminal discharges; and it is propagated through the vasa deferentia to the testicles, giving rise in them to inflammation and enlargement.

So much local distress must inevitably cause a great deal of general disorder. Febrile symptoms are commonly present; the functions of the liver are imperfectly performed; the nervous system is much disturbed, and the patient feels greatly debilitated.

Finally, the sequel of all this dreadful train of symptoms may either be a rupture of the bladder, when death soon puts an end to the patient's sufferings; or a rupture of the urethra, letting the water pass into the cellular tissue of the perinæum, the scrotum, and the penis, producing immediate and enormous swelling of these parts, and sometimes violent inflammation, gangrene, and death; or there may be fistulæ in the perinæum, the miseries of which are but little preferable to dissolution.

Other symptoms, also, usually attend the affection, which more or less contribute to the distress. One of the most hazardous is incontinence of urine. The pressure behind the stricture keeps up a constant involuntary dribbling; the clothes are all the time wet and foul, and the patient is an object of disgust and loathing, not only to others, but even to himself.

The importance of proper and early attention to the approaches of stricture, must,

I think, be readily acknowledged; and a patient who is really thus affected cannot too soon consult a proper medical adviser. I, however, feel it my duty in this place to offer a few words of advice and caution to such of my non-professional readers as may perchance read these pages.

It has become altogether too common, of late years, among professional men, either from motives of gain, or from ignorance, to persuade their patients that they are seriously diseased, when, in fact, there is nothing, or next to nothing the matter with them. Quacks have seized upon this idea, as it admirably suits their mercenary purposes; and they fill their victims with terrors of evils which are wholly imaginary, having no existence except in the frightful pictures drawn by unprincipled charlatans, and in the disordered and excited imaginations upon which they operate. To such an extent is this system of deception practised, that the opinion has grown to be quite prevalent with the public, and, perhaps, with many surgeons, that disease of any description of the genito-urinary apparatus, betokens a stricture, and foreshadows all the dreadful train of sufferings which I have already described. Daily the quacks are startling the community with the notion that if a person have chordee, slight irritation of the urethra, a gleet discharge, hydrocele, indurated testicle, occasional priapism, seminal weakness or impotency, incontinence of urine, balanitis, or any eruption on the glans penis or prepuce, if he cannot pass a stream of water as large as one's little finger and as round and straight as a gun barrel, then he certainly has stricture, and is forthwith put under treatment for this complaint.

Now, any of these symptoms may occur, besides many others which are purely imaginary, and yet the patient not have the slightest kind of stricture.

A trifling alteration of the mucous membrane of the urethra from its normal state, the consequence, perhaps, of some former inflammation which has long been extinct, may so far change the stream of water as to give it a cork-screw shape, or broken jet. An enlarged prostate gland, occurring most frequently in persons advanced in life, will cause a complete retention, or earlier, a diminished stream and dropping, with a constant desire to empty the bladder; or the muscles of the penis becoming relaxed, the last drops cannot be expelled, and there is a dribbling upon the clothes of the small quantity of urine which remains in the urethra after the expulsive contractions of the bladder have ceased. A difficulty of a like kind may arise from paralysis of the bladder; and whatever can produce spasm, however transient in its effects, may give rise to symptoms, which will either subside rapidly themselves, or yield to the simplest kind of treatment.



It is useful not only for the practitioner, but for the public, to be acquainted with these facts; for the former will practise with more skill and credit to himself, while the latter will often be saved from the jaws of ignorant or unrighteous sharks, who are ready to devour their substance under false pretences, and be rescued from the horrors of the mind, arising from the apprehension of impending distress.

#### DIAGNOSIS OF STRICTURE.

FROM what I have previously said, it will be understood that, when a patient applies to us with the impression that he is laboring under stricture, it is possible that the symptoms may spring from another cause. Or they may be of a doubtful kind, and therefore it is necessary to make an examination of the urethra with a bougie, or some other corresponding instrument, to remove the doubt.

The bougie which is best suited for the purpose, is that made of plaster or wax, and should be of full size — large enough to fill the urethra without forcing it. If a small instrument be employed, there are two circumstances which are liable to lead us into a false diagnosis. The bougie may pass through the stricture without being sensibly obstructed, leading us to suppose that no stricture exists; or its small point may become involved in the orifice of one of the follicles, or in a lacuna of the urethra, or in a slight wrinkle of the mucous membrane, and lead us to the opinion that there is a stricture, when, in fact, there is nothing of the kind. Both these errors it is very desirable to guard against. In the one case we should subject the patient to unnecessary treatment, and in the other, we dismiss him with an assurance that all is well, injuring him by losing valuable time, and injuring ourselves, in all probability, by sending him to consult some one else who will succeed better in making an exploration.

The mode of introducing the bougie I need scarcely point out, as nearly every practitioner has a fanciful plan of his own, which he conceives to be superior to that adopted by others. Unless there is some particular reason for a contrary proceeding, I generally prefer that the patient shall be in the erect posture before me. I take a curved wax bougie, well oiled, in my right hand, and introduce it with the convexity upwards, and the handle turned towards the left groin. Having introduced the instrument in this way as far as the curve of the urethra, I bring the handle to the body of the patient, at the same time dexterously turning it so that the



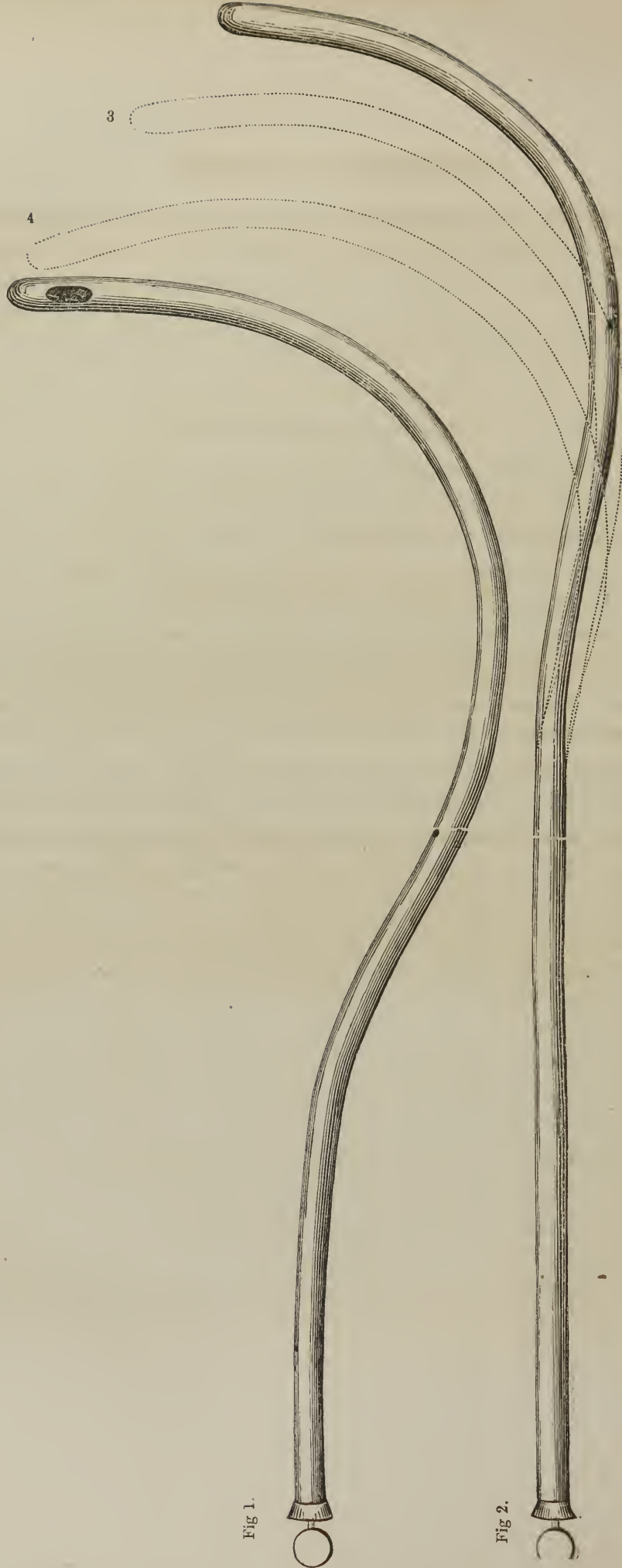


Fig 1.

Fig 2.

### EXPLANATION OF PLATE.

*Figure 1*, of the preceding plate, is that of an elastic catheter, intended to show the shape of a male urethra. This particular curve was given to it in consequence of its having been so long retained in the urethra, as to have been permanently impressed with the precise form of the canal.

*Figure 2*, represents an elastic bougie bent into the ordinary curve that is given to it by the maker. *Figure 3*, in outline, exhibits the same instrument with the wire drawn out about half an inch, which, it will be seen, has sensibly changed the shape; while *Figure 4*, with the stilet withdrawn a little further, has more materially altered the curve.

It sometimes happens, in practice, that there is an advantage in being able to alter the shape of the instrument, when it becomes engaged in the urethra with an obstruction. By moving the stilet, this end is attained with certainty, without any further manipulation; and the catheter, perhaps, will now surmount the difficulty, and pass at once to the bladder.

concavity is reversed, when, if there be no impediment, by pressing gently onward and lowering the outer end, it will readily glide into the bladder. The operation is very simple when performed in this manner. There are but two natural obstacles, after passing the bend caused by the pendulous part of the urethra, one is at the bulb and the other at the triangular ligament which passes under the urethra at the commencement of the membranous portion. By keeping the urethra well stretched when the instrument is brought to the perpendicular position, until it is again depressed, and by bearing the point of the bougie against the upper surface of the canal, this difficulty may be avoided. If the handle is lowered too soon, whilst the urethra is not sufficiently stretched, the point will be carried against the triangular ligament at that part where the urethra is firmly attached to it, and cannot go forward until it is drawn back again the distance of about half an inch ; it then must be pushed steadily onward against the upper surface of the urethra, until it has passed the obstacle ; or sometimes this object can be accomplished by pressing up the bed of the instrument with the finger on the perinæum.

It is well for the surgeon to be acquainted with this difficulty, and the mode of managing it, or he may diagnose the presence of stricture, when the urethra is quite free from such a contraction.

Should we succeed in introducing the bougie without any particular trouble, we will, of course, conclude that, whatever may have been the symptoms, there is no permanent stricture. If, on the other hand, the instrument is obstructed, and, with all our management, we cannot succeed in getting by the impediment, the diagnosis is rendered clear — there is a mechanical obstruction, the result of disease, to be removed.

## CHAPTER XXIII.

### STRICTURE.—TREATMENT.

THE use of the catheter and bougie.—Surgical operations for retention.—Treatment for radical cure. Internal remedies.—Dilatation by bougies.—The varieties of instruments.—False passages.—Hemorrhages: treatment.—Constitutional symptoms consequent upon the use of the bougie.—Cauterization not advisable.—Incision.

IT will nearly always be the case that when patients apply for assistance they are capable of passing still some water, although very slowly and with great difficulty. The retention is incomplete. When the state of the patient is no worse than this, the necessity for assistance is not very urgent, and we may proceed to use our remedies upon reflection, and at our leisure. But should there be a total stoppage of the urine, and the patient be suffering very much from a distended bladder, he must be relieved without delay. Our measures are now taken, not with the view of effecting a permanent cure, but to rescue him from the immediate terrible distress with which he is menaced.

The primary object is to empty the bladder. For this purpose we use every effort to introduce a small sized catheter. This is to be done with gentleness, and, if necessary, with perseverance. If we are foiled in one attempt, we make another, and continue them, varied in every possible way, until it becomes apparent that we cannot succeed. It will sometimes occur that these attempts will be rewarded with a favorable issue, for the complete retention is almost always owing, in part, to spasm, which the instrument will be able to overcome, if it can be directed to the opening in

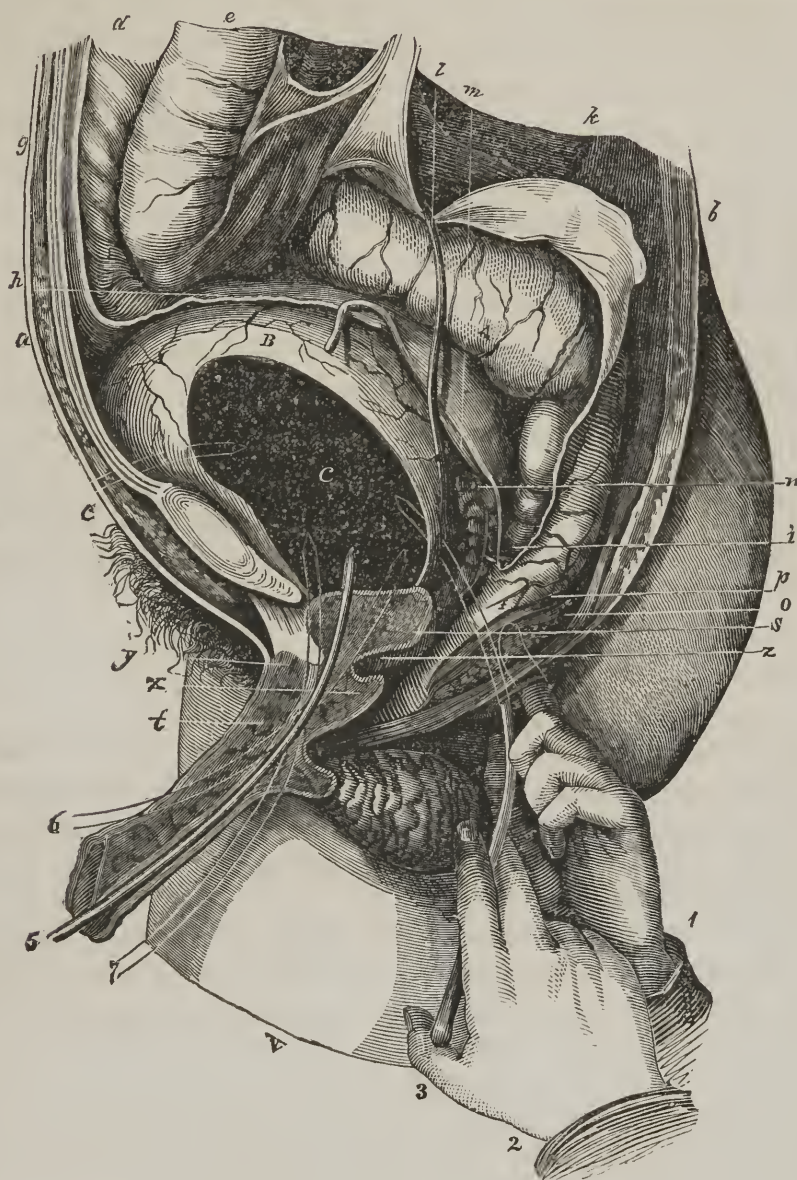


the strictured part. When the catheter has failed, we may next try a small cat-gut bougie. If it can be passed into the stricture, it should be allowed to remain there for some time, that it may soften and swell, and by this means dilate the contraction. Upon being withdrawn, after it has been in the stricture, a small stream of water will usually follow it. The best directed efforts having failed, the patient, if strong and plethoric, should be bled from the arm: cups should be applied to the perinæum, and these be succeeded by a considerable number of leeches, and the bleeding promoted by hot fomentations, hot baths, and whatever else can produce local relaxation. The bowels should be well opened by a large enema of Epsom salts, common table salt, and gruel; or croton oil, common salt, and starch water. Bleeding, in those who are feeble is useless, and is better omitted. Opium must now be administered in large doses, both by the rectum and mouth. Three grains dissolved in two ounces of water, should be exhibited as an enema, and a grain may be given in a pill. At the end of three or four hours, if no benefit has been derived from what has already been done, the medicines should be repeated. I think it is also advisable to apply over the perinæum soft poultices saturated with the tincture of opium, or belladonna, or ointments made of some one of the powerful narcotics. By this means the irritability of the bladder will probably diminish, so that the inclination to empty itself becomes less urgent; the patient will fall into a short sleep; general relaxation ensue; the urine will begin to drop, and presently, when the spasm is quite removed, we have the happiness of seeing it come away in an uninterrupted jet. The patient is now relieved for the present, and we can adopt the subsequent treatment with more deliberation.

It now and then happens that all these efforts fail in affording the patient relief. The only remedy left is a surgical operation. Modern authors have recommended five different kinds: *First*, to puncture the bladder above the pubis, which is the most objectionable: *Second*, to puncture it through the rectum, which may be done without much difficulty, but it is merely temporary, and does not remove the stricture: *Third*, to open the urethra from without, and continue the operation by cutting through the strictured part: *Fourth*, to divide the stricture and re-open the passage by an instrument passed through the urethra: *Fifth*, by a combination of these two last modes.

The surgeon has now to decide which of these various plans he will select. The latest and best authorities condemn the operation above the pubis, as being fraught

with consecutive dangers, from which the other methods are more exempt. If the bladder have risen high into the abdomen, together with its peritoneal covering, the puncture is effected in this situation by a simple division of the skin and separation



MODE OF PUNCTURING THE BLADDER.

**SURGICAL ANATOMY OF THE BLADDER.**—The walls of the abdomen and pelvis have been removed on the left side, a portion of the bladder excised, and the penis and prostate cut through on the middle



of the recti and pyramidalis, and the bladder is perforated by a straight long trocar and canula. It is highly important to retain the canula, and every method must be adopted to insure the patient against the danger of infiltration. I should say that this operation ought never to be resorted to in retention of urine from stricture; in cases of retention from enlarged prostate gland, it may be preferable, sometimes, to any of the other methods of opening the bladder.

The operation through the rectum, when there is no considerable enlargement of the prostate gland to interfere, may be performed very easily, and Sir Benjamin Brodie, in his excellent work, seems inclined to give it the preference. The simplicity and safety of puncturing through the rectum, certainly strongly recommends it. Unless the peritonœum has descended lower between the bladder and rectum than usual, a circumstance which cannot be foreknown, and which is of very rare occurrence, there is no danger of wounding it. The canula of a curved trocar is guided by the finger to the triangular space marked out by the vesiculæ seminales and peritonœum. The trocar and canula are now to be forced steadily into the bladder, when the trocar is to be withdrawn, and the canula pushed forward, so that the urine may freely escape. The instrument must be retained until the necessity

line. The prostate is represented greatly enlarged, especially at the middle lobe, so as to have caused a retention of urine.

A. Rectum. B. Bladder. C. Cavity of the bladder.

*a.* Line of section of the abdominal wall. *b.* Section of the posterior wall. *c.* Symphysis pubis. *d.* Small intestine above the bladder. *e.* Sigmoid flexure of the colon. *f.* Pouch of the rectum. *g.* Line of section of the peritonœum, which is seen reflected round the posterior face of the bladder, down to the bottom of the pouch *i*, which it forms between the bladder and rectum. *k.* Parietal peritonœum as it passes up to line the iliac fossa. *l.* Ureter. *m.* Vas deferens, running down on the inner side of the Vesiculæ seminales *n*, which may be seen reposing on the side of the bladder. *p.* Internal sphincter muscle of the rectum. *o.* Levator ani, divided near its insertion into the rectum, immediately below which is seen the external or anal sphincter. *t.* Penis split through the median line. *z.* Membranous portion of the urethra. *s.* Prostate, divided in the middle line.

1. 2. 3. PUNCTURE OF THE BLADDER FROM THE RECTUM. 1. Left hand of the surgeon, the forefinger introduced through the anus, and seen outlined with the point behind the prostate. 2. Right hand of the surgeon, holding trocar, which has been passed up in front of the left forefinger; the point of the stilet is projected into the bladder with the thumb of the right hand. 3.

4. PUNCTURE OF THE BLADDER ABOVE THE PUBIS. The position of the trocar is outlined above the pubis; the projecting point of the stilet, and the end of the canula, as seen in the cavity of the bladder.

for its longer use has ceased. Much is gained for the patient by this proceeding ; but, unfortunately, much may remain to be done to complete the cure. The patient is relieved, but the organic obstruction of the urethra still exists. The difficulty of finding a way through the natural channel is much diminished, because the pressure of urine behind the stricture is taken off, and the irritation excited by this cause will rapidly subside. We may expect that the spasm, which, probably, has been the cause of *complete* retention, will now relax, and that the water will pass in the same manner as it did before the accession of the paroxysm. Should this not happen, or should it be found impracticable to insinuate the bougie under the new and more favorable circumstances, another cutting operation has to be performed ; and it is this fact which renders puncturing through the rectum objectionable.

Another method of operating is to uncture the urethra through the perinæum. There are several ways of doing this, and, although it is free from danger, when properly executed, it is a more formidable undertaking for the operator, and much more painful to the patient than the one last described. The operation of Mr. Guthrie, one of the surgeons of the Westminster hospital, I believe to be the most efficient, and I prefer it to any of those that I have seen recommended by others. I shall quote his own account of the order of proceeding.

“The patient being placed as in the operation for stone, a catheter, or sound, is to be passed down to the stricture, and held steadily against it. The rectum having been previously cleared by an enema, the forefinger of the left hand being duly oiled, is to be introduced into it, and the state of the membranous part of the urethra and the prostate, are to be carefully ascertained. The principal object in introducing the finger, is to ascertain the relative situation of the upper part of the rectum and the urethra, which latter part only approaches to, or is almost in direct application to the rectum, near the termination of its membranous part and the commencement of its prostatic portion. There is a certain distance, which is greater or less in different individuals, between the last inch of the rectum and the urethra placed above it. The two parts form two sides of a triangle, the apex of which is the prostate, the base, the external skin ; and it is within the two lines of the triangle that the operation is to be done. The surgeon taking the catheter in his right hand, whilst the forefinger is applied to the upper surface of the rectum, moves the point upwards and downwards, so as to convey to the forefinger of the left hand a knowledge of the situation of the extremity of the instrument, and particularly of the dis-



tance between them, and which the motions given to the catheter by the right hand will clearly indicate. The thickness of the parts between the obstruction and the rectum can be estimated with sufficient accuracy, both at the point where the left forefinger is applied, and at the surface of the skin. The next step is to divide the tissues intervening between the upper surface of the rectum, and the under surface of the anterior and middle portions of the membranous parts of the urethra. This is to be done by a straight, blunt-backed, narrow, sharp-pointed bistoury fixed in its handle ; the point of which is to be placed on the skin, a little above the verge of the anus, the cutting edge being upwards, the blunt back towards the rectum, the handle being a little depressed, the point somewhat inclined upwards. The degree of inclination necessary to carry the knife inwards for the distance of an inch, and clear of the rectum, will be indicated by the finger in that part ; and the eye of the operator should correspond with the forefinger, so that the bistoury may be steadily passed in to that extent, and then carried upwards and brought out in the exact median line, making an external incision of at least an inch and a quarter to an inch and a half, as regards the external parts. If the perinæum is much hardened, and consequently unyielding, a transverse, curved, or crescentic incision should be made across it, the centre of which should correspond with the raphe, and be one quarter of an inch above the verge of the anus, or as near that distance as may be, with due regard to the safety of the rectum. This gives room, and allows the parts to be separated as much as they will admit. The wound having been sponged and examined, the surgeon should again introduce the bistoury in the median line, the point being directed upwards and backwards towards the urethra, and he may then deepen the cut, without fear, for the forefinger in the rectum will always inform him where the back and the point of the bistoury are. The opening will now be sufficiently large to allow the operator to lay aside the knife, and to feel for the urethra with the point of the forefinger of the left hand, keeping the end of the catheter steady against the stricture, which will be readily felt, and through which the catheter will now often pass with a little pressure. If it should not do so, and the point of the forefinger does not go beyond the stricture and touch the sound part of the urethra, which may or may not be dilated by the urine, the knife is to be resumed, and the forefinger being placed in the wound, on the outside of the rectum, which is to be depressed as much as possible, the back of the knife is then to be turned to it, and whilst the patient strains, the point should expose and open the

urethra. It will not be necessary to go so far back, however, and the membranous portion may be opened at its middle part, with every advantage, and with perfect safety to the intestine. A tolerably good anatomist and surgeon will open the urethra in this way sooner than the mode of doing it can be described, the urine will make its escape, and the patient be at once relieved. The stricture should now be divided, and the catheter carried on into the bladder."

The directions for the operation which we have just cited from Guthrie seem very complex, and yet I am inclined to look upon this method, all things being considered, as superior to any other. It is perfectly safe, and promises entire success.

The other operations it is unnecessary to describe, and the more especially as I cannot advise them. When cutting instruments are demanded to relieve stricture situated beyond the bulb, there is no mode having so much to recommend it as either this in the perinæum, or that through the rectum.

I will add, that an operation on a patient, unless an actual necessity exists, would be perfectly inexcusable; and, fortunately, this is indeed extremely seldom. By judicious manœuvring nearly every case will yield to the gentler methods—even the most unpromising will relent before the assiduous efforts of a cool and persevering surgeon.

#### TREATMENT FOR THE CURE OF STRICTURE.

It will be observed that what we have hitherto said in relation to the treatment of stricture, has referred rather to the symptom of retention of urine, than to the removal of the stricture itself.

I shall now proceed to furnish an account of the various means, each having its partisans, most commonly resorted to. General treatment, ordinarily, is not required, but if the tendency to spasm be increased by any constitutional derangement, such as an excessive secretion of lithic acid by the kidneys, which may be known by the formation of small calculi, or of red sand, or lithate of ammonia, then the habits of life demand adjusting; and the exhibition of alkalies, purgatives, and whatever other remedies the particular nature of the case may suggest, must not be neglected to bring the system into healthy action. So, also, if the urine be alkaline, a liberal allowance of good food, and the administration of opiates, the mineral acids and tonics, will be productive of much advantage in aid of the local measures. Regular living in all

cases is advisable, and riding on horseback, or violent exercise, must be strictly prohibited.

Stricture being a reduction of the capacity of the urinary channel, it is obvious that the grand indication is to restore the canal to its original dimension. When there is an obstruction, the first idea which occurs, is to attempt its removal by instruments that can make their way to the bladder. Hence the use of bougies and catheters. These are made of different materials—some are metallic and others plastic; some unyielding and others elastic. Surgeons have their partialities—perhaps mere prejudices, in using one or the other of the various kinds, but a good surgeon will never wed himself to any particular instrument, or medicine, in the removal of disease. He who does so, is deprived, unnecessarily, of some of the resources of his art. He is guilty of the same folly of which a man would be guilty, who, in engaging in a conflict with a strong enemy, should fool-hardily tie up one of his hands, so that it should be useless, merely from the ridiculous vanity of displaying the more strikingly his own superior strength. Whoever relies upon a single remedy, under the protean shapes in which disease is displayed, reduces himself to the rank of the empirics, and reminds one of the quack nostrum-venders who offer to furnish the public with a universal medicine, that will cure every malady that “flesh is heir to.”

Dilatation is the most natural method of cure, and the experience of the profession has shown it to be the most preferable. Bougies for this purpose have been in use for at least three hundred years, and Alphonso Ferri of Naples, one of the old writers, maintains that they were known to Alexander of Tralles, a surgeon who flourished in the sixth century of the Christian era.

Dilatation of a stricture presupposes that there is such an opening through it as to allow the insinuation of a bougie. When this is impracticable, by mild measures, it is a very reprehensible practice to punch a way through, or to continue poking at it for a long time in the hope of at last attaining the object in view. In this way much injury is often done to the parts, and the evil is rather increased than lessened. In all these cases, my plan is to introduce a bougie of moderate size, until its point is arrested by the obstruction, and I request the patient to keep it firmly but not forcibly, in contact with the stricture, as long as he can bear it with comfort, or for perhaps an hour. At the end of this time, it very often happens that the instrument will now go forward without much difficulty, and we may at once reach the bladder.



The mode in which this change is brought about I am unable to explain—it may be by fatiguing the parts which had resisted, or it may be that in some other way it allays irritation. Having got the instrument through the canal, the subsequent treatment becomes comparatively easy. It has been recommended by Velpeau and certain others, to dilate rapidly—that is to say, soon after one bougie has been removed, to follow with a size larger, and this to be repeated until the largest has been made to enter the bladder. This has been done in a few hours, or at most in a very few days. This practice, I believe, is mainly confined to the French surgeons, and it is one that has objections, the most important of which, seems to be, that it produces only temporary effects. It acts, I apprehend, on the same principle that rules when we stretch inert matter. It must be clear that treating living tissues in this way is physiologically wrong. There is not sufficient time given for the dilated part to acquire new actions, and conform itself to the altered condition that is imposed upon it. No time is allowed for vital changes to be effected, and, therefore, we can only imagine, either that it is merely stretched out by the application of mechanical force, which overcomes its contracted state, or else that the violence and haste of the proceeding has lacerated the urethra, and probably produced a severe inflammation, which, in the end, will be found to have done more harm than it has done good. It is, in fine, a method which does not commend itself to my understanding; consequently, I do not practise it, nor can I advise others to try it.

The frequency with which the bougie may be used with benefit to the patient, and without subjecting him to undue irritation, depends, in some measure, upon the constitution of the person upon whom we operate. Sometimes it may be introduced every day, but, at others, it may be necessary to allow two, three, or more days to elapse, before it can be repeated. As we proceed, the urethra accommodates itself to the new usage, and feels less the irritation which was excited on the first attempts. If many days are allowed to pass without a reapplication, it will be found that the parts are returning to their former state.

The most important part of the treatment of dilatation, however, is in keeping the instrument in the urethra for a considerable period each time it is introduced. Hours together are not too much; and I advise, even, that patients shall sleep with it through the night. This is my practice, and I know it answers far better than the trifling mode of putting the bougie into the stricture, and in a few minutes after



withdrawing it. Patients often come to me who have been thus treated, and, as a matter of course, have received no benefit of a permanent kind.

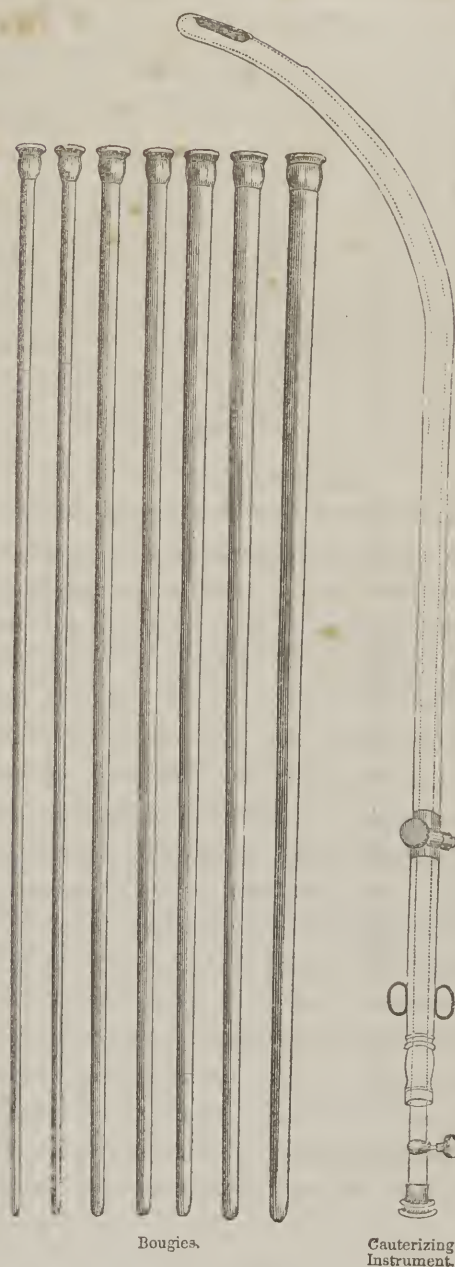


Conical  
Bougie.      Fusiform  
Bougie.

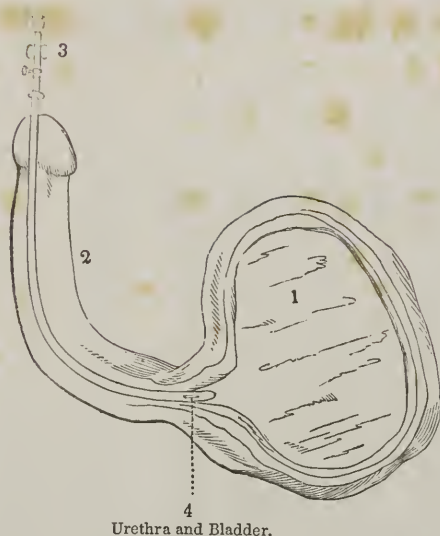
Various are the shapes of instruments which have been used for the purpose of dilating stricture. Some surgeons have employed *straight* metallic bougies, and when the stricture is anterior to the bulb, these are as good, if not better, than the bent; some employ the *cylindrical*, or those of equal diameter from one end to the other; others use the *conical*, while there are still others who have a fancy for what are called the *bellied* or *fusiform*. There may be certain peculiar cases in which one of these varieties is superior to the others, but I confess that the old-fashioned cylindrical flexible bougie, well made, I have always found admirably to serve all my purposes, and I have not the slightest wish to change it for anything new. When I can introduce it in the stricture, I never fail in accomplishing a cure, with comfort to my patient, and to my own satisfaction. This, I am sure, is as much as can be said in favor of any of the later kinds. The plate exhibits the shapes of those which I have been describing.

There are some surgeons, and among them Mr. Phillips, who deny that the bougie is a *curative* agent in treating stricture. This I am not prepared to admit. If the proposition had been stated differently, viz.: that the bougie is not *always* a curative agent, it would be allowable; for, no doubt, it often occurs that contractions return, especially after they have been rapidly removed by this instrument. But may not this be ascribed, in many instances, to incomplete cures, which, had the treatment been longer continued, would have ended in *complete* ones? The pressure exerted in dilatation, I cannot help believing, exercises a powerful influence in promoting an absorbent action upon the adventitious or morbid production composing the obstruction. Such we know to be the ordinary effect of pressure on the natural tissues; and we also know that those accidentally developed are still more subject to this pathological law. It therefore is a legitimate logical deduction from this well-settled vital principle, that the same effect will follow the same antecedent conditions. That patients are often permanently cured, my own experience furnishes me with the best evidence for believing. Owing, however, to the circumstance suggested above, it may, indeed, be

the fact, that patients are sometimes only relieved. Even this is gaining much. Hence it is proper, when a surgeon is taking leave of his patient, to admonish him against neglect of symptoms that may indicate a return of the disease. He should be instructed in the art of introducing the instrument for himself; and it would be advisable for him, occasionally, to pass it through the urethra, with the view of keeping it open. Once a month, or perhaps six months, or even a year, may be often enough to save him from any future trouble. In doing this, he should be apprised of the danger of making false passages, by using violence in forcing the instrument forward, when the point of it becomes engaged with the lacunæ or plicæ of the mucous membrane. By whomsoever the bougie may be used,—surgeon or patient—it should be a precept, always to be borne in mind, that much mischief may, in this manner, be done, and all the evils of a diseased urethra become greatly aggravated. It is a very common occurrence for persons to present themselves to me for assistance, in whom false passages have been pierced by ignorant and *energetic* operators. It is a very nice point to determine what amount of force may be employed with safety to the delicate textures by which the instrument is invested. With a certain class of



This plate exhibits the cylindrical bougie, and a cauterizing instrument, which I believe to be the only proper one as yet known for cauterizing the mouths of the ejaculatory ducts, in seminal weakness. Lallemand's *porte-caustique* for this purpose, is liable to at least one very serious objection, and which is enough to condemn for ever its further use. The cup, in his instrument, that contains the caustic, is attached to a flexible spiral rod, and is projected beyond the end of the catheter to the parts intended



men who continue to beguile the community into a belief that they possess superior qualifications, when in truth they are wholly without knowledge of human diseases, the favorite practice is a sort of *horse* doctoring; and what they lack in skill, they supply in strength. Their operations are conducted with an abiding faith in a mathematical principle of treatment — if gentle force be good, strong force will be better,— as one pill is to a given result, so are two pills to double that result !

to be cauterized, where it is capable of being turned around, should the surgeon desire it. The objection is rather to its mechanism than its theory. When the caustic cup is thrust forward to be used in the urethra, there is much danger that its slender neck may break, and still more in turning it, thus leaving it behind in the prostatic portion of the canal. It has once broken in my hands — the first, and I am sure it will be the last time. I can scarcely imagine that any one could be more alarmed, for the moment, than I was. I felt it give way distinctly. Very gradually I withdrew the instrument in the proper direction, and it fortunately happened that the separated portion followed the catheter, and dropped upon the floor. Whether it was not wholly detached from the rod, or whether it was forced outwards by the contraction of the urethra, I am unable to say. But I can say that its appearance, when it fell to the floor, was to me a matter of the most hearty rejoicing. The patient neither heard it when it struck the floor, nor saw it, nor was there anything in my manner which betrayed to him the imminent danger he had escaped. He was a gentleman of distinction, and such an occurrence, had it terminated in leaving the broken piece behind, would have been sufficient to destroy the standing and reputation — I was about to say — of the most distinguished in our profession. The same accident has happened to others, how many times I know not; but I know of one instance in which it proved fatal. A physician of Buffalo was using it upon himself, when it broke off in the neck of the bladder, and was the cause of his death. The fact is sufficient, I should think, to deter any one, however experienced in the use of instruments, from employing it. The instrument represented in the plate is not open to this objection. No such consequence can possibly result from it.

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The above plate shows the urethra and bladder, with the porte-caustique introduced, as in the act of cauterizing the mouths of the ejaculatory ducts. 1. The bladder. 2. The penis. 3. The porte-caustique. 4. The caustic applied to the ejaculatory ducts.

The instrument is first introduced into the bladder. If there is no danger of the patient's fainting, I



A not uncommon accident accompanying the use of the bougie, are hemorrhages from the urethra. Bleeding sometimes happens to a very considerable amount, but there is nothing in it that need excite any alarm. With all the tenderness that we can show to the disease, consistent with doing anything effective, a copious flow of blood may follow the introduction of the instrument. From the sum of force exercised, we are sure that the urethra could not possibly have been torn, or in any other manner injured, and hence we infer that some part of the canal is suffering from excessive vascularity, and probably that the depletion will have a favorable influence on the further management of the cure. Should the discharge show a disposition to continue until it might become exhausting, it generally may be assuaged by astringent injections; or, if these should fail, by the introduction of a full-sized bougie, sufficiently large to make pressure over the bleeding part; or, by what, in very severe cases, is yet more effectual—making external pressure over that spot of the urethra, from which the hemorrhage is taking place. In doing this, a piece of cork is as good as any article that can be employed.

To know where the pressure is to be made, the patient should be requested to expel all the coagulated blood out of the urethra; and, as the bleeding usually proceeds in these cases from that part which is anterior to the triangular ligament, we ascertain, in the first instance, by pressing along on the outside of the urethra, beginning as far behind as possible, the precise point whence the blood escapes. If pressure be made behind the spot, it is evident that we produce no effect. We then advance a little forward, and try again; if the blood still flows, we move further, and thus we continue until we find that the pressure has cut off the effusion. We judge now, that the bleeding surface must either be directly beneath the line of force, or else a very little behind it. In this way it is commonly easy to stop the most obsti-

prefer to pass it while he is standing before me. The moment the opening in the end of the instrument enters the bladder, it will be known by the escape of urine. It must now be withdrawn, just sufficiently far to stop any further issuing of the water, which will place the slit directly over the mouths of the ejaculatory ducts. The rod holding the caustic must be at once drawn forward, so that its cup will come exactly opposite the opening in the catheter, which will bring the caustic in contact with the ducts and prostatic portion of the urethra. Some surgeons prefer using the dry powdered nitrate of silver, while others use it in the solid state. I am governed by the condition of the parts, as to what material I use. Sometimes I use the dry powder alone, but most frequently mixed with simple cerate or gum arabic. At others, I use burnt alum, and sometimes sulphate of copper, adulterated.



nate hemorrhages. Placing a cork or pad upon the point, the patient will usually be able to make proper pressure upon it better than another person can do it for him.

An accident which occasionally follows the use of bougies, is sudden constitutional disturbance; in the young and middle aged, there may be sickness and fainting,—in the old there may be rigors. These symptoms are of no particular consequence, except so far as they produce temporary inconvenience. They are the result of much susceptibility of the nervous system, combined with the local irritability of the urethra. After a few applications, such untoward effects cease; or, if necessary, they may usually be prevented by administering, a short time previous to the introduction of the instrument, a full dose of opium or laudanum.

Such facts as these should never be forgotten, for if the practitioner is not aware of them, the patient may be alarmed or unnecessarily suffer, and the surgeon, becoming embarrassed by the unexpected complication, loses his self-confidence, and, what is even worse, the confidence of others. This to him is a most serious loss, for it is his whole stock in trade, which, being once destroyed, he becomes a professional bankrupt, and will find it much more difficult to regain his position than the insolvent merchant, who can start anew upon borrowed capital. Both may be the wiser for the lessons they have dearly paid for, but the trader with his replenished money-bags, can go into the market and at once *command* business; while the doctor, whose capital is his scientific knowledge and the good opinion of the world around him, is compelled to stay at home, and often hopelessly wait for it to come to his doors.

When we are able to pass a full-sized bougie through the strictured part, it may be repeated at longer intervals of time. At first once a week; then once in two weeks; next once a month, until we have reason to feel satisfied that the dilatation is complete, and that our further services are no longer required for a satisfactory termination of the case.

*Cauterization* is another method which has been greatly in vogue for the cure of stricture. Escharotics are not of recent use in such cases, for they appear to have been resorted to at least four centuries ago, by Alphonso Ferri, Alderato, Amatus Lusinatus and others, with much success in destroying carnosities of the urethra, as they then commonly called all obstructions. In those early times, the caustics were composed of several ingredients, and there were several different formulæ for pre-

paring them. The one which was commonly used by Ambrose Pare, was composed of :

Powdered Sabine,	3ij.	
Ochre,		} āā 3i.
Antimony,		
Prepared Tutty,		

William Loiseau treated Henry IV. of France, successfully, by means of the caustery, employed much in the same manner that it was employed by Pare. It appears, however, notwithstanding its claim to an origin of ancient date, that at the beginning of this century, it had been quite forgotten, and was at that time revived as something new in surgery. Among modern surgeons, John Hunter seems to have been the first to try its virtues. Sir Everard Home brings forward a great number of cases in his work on stricture, to prove its efficacy and give it fame. They used the nitrate of silver, and upon the whole, this is probably the best of all the different caustics which have been tried.

Soon after the lunar caustic was so strongly recommended by Home, Mr. Whately came before the profession with the “kali purum,” or the potassa fusa of the late pharmacopœias; and made for it the most extravagant pretensions. All the great authorities in the healing art having got astride of this hobby, the professional crowd could do no less than follow after. Cauterization was the great remedy of the day, to the neglect of all other kinds of treatment. Every variety of stricture was treated with burning, without discrimination, and, it cannot be doubted, that there was much mischief done, and that there were numerous failures. Though not abandoned, its use in England has become much more restricted, and this is particularly the case with the caustic potash. Mr. Wade, a London surgeon of some note, has lately made an attempt to revive the employment of this article, and has furnished in his work, some very good cases of its therapeutical effects; but, nevertheless, it seems to meet with no favor from the great mass of the profession, and the nitrate of silver is generally thought to be preferable.

Caustic is supposed, by its advocates, 1st. That it can allay irritation and spasm; 2d. That it can destroy a long and narrow stricture; 3d. That it works a permanent cure. The experience of every medical man, establishes the first proposition. It certainly possesses the admirable property of quieting the irritation of membranes,

in a very decided and remarkable manner ; but this, I believe, is as far as its usefulness extends.

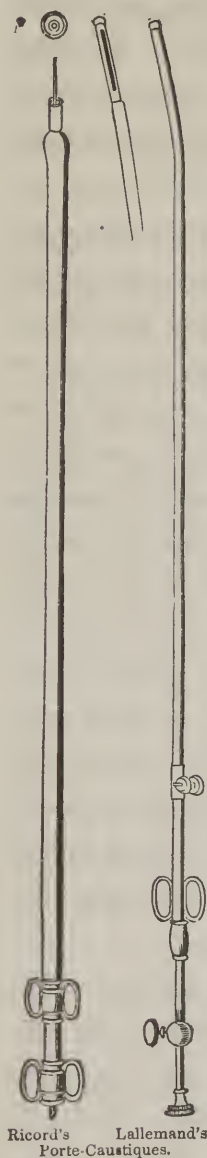
Can it be possible, that by its escharotic action, it is capable of removing the indurated substance which so commonly is the chief cause of stricture ? It will, undoubtedly, produce an eschar, but this is so exceedingly thin, that the length of time which would be necessary to remove the whole mass of obstruction by this process, would be tediously long, if, perchance, it succeeded at all. But, it must not be forgotten, that the reparative actions are going on at the same time that we are pursuing the destructive. The thin film which we burn away, will, in a very few days, be restored,—as soon, indeed, as it is advisable to re-apply the caustic. If we use it oftener, or longer, so that its effects are more potent, then we may anticipate consequences, extremely troublesome to manage, and to which no patient will willingly submit. Violent inflammation must assuredly be excited, and all the symptoms of stricture, as certainly increased. But suppose that it does *actually* eat away the induration, what is the condition of the part that remains ? We must, of course, at the outset, destroy the mucous membrane, and, when the effused matter has been eroded, we have an ulcer, with its base resting in the subjacent cellular tissue, or, what is more probable, in the corpus spongiosum. We are rid of the stricture, it may be assumed, after much suffering and persevering effort, but, we have left behind, a very ugly sore in the urethra, that must in the end, be healed up. When this purpose is attained, how then will the case be likely to stand ? We shall find that there have been new extravasations of lymph, and that we have got a *new* stricture, formed by a hard cicatrice, more distressing than the original. With the nitrate of silver, I do not believe, as I have already suggested, we need fear any such caustic effects. We may kindle an inflammation by its improper use, but we shall not be able to cause deep sloughing. An estimate of its action in the urethra can be formed, by observing how it acts on such mucous membranes as lie under our immediate notice. If it be applied to the membrane of the mouth, we see but little more than a coagulation of the mucus, and a crisping of the epithelium. The same thing happens in the vagina. When frequently applied to the same spot, there are still to be seen no very destructive effects. It then is fair to conclude, that when introduced into the urethra, precisely the same consequences ensue. To my understanding, it is plain, that, as an escharotic, the nitrate of silver is quite useless, if not worse than useless, and that it can exercise no chemical influence, in the



removal of permanent stricture. Can it then in any other way, do good service in this cause? There is but one mode in which this is probable, and that is by its acting as a common stimulant — increasing thus the action of the absorbents, and indirectly curing the contraction. It is of such cases that we read, in those authors who have been so enamoured of its advantages. But, after all, how does it appear that this is in any wise superior to the practice of dilatation, by means of the simple bougie? Indeed, it is not at all unlikely, that one-half of the good, at least, in those cases, was derived from the mechanical effects of the naked instrument. The *porte-caustique*, of which we have furnished figures in the accompanying cut, is passed into the strictured part, and, were it used unarmed, would, I conceive, give rise to nearly the same series of phenomena. If the stricture be very irritable, it is unquestionably useful; but if not, my opinion is, that the process, conducted by the plain instrument, will accomplish just as much, or even more than cauterization, if dilatation be omitted when the caustic is employed.

The fact is, it is often the case, when the cautery is had recourse to, that the preliminary steps are the use of *dilating* instruments, to prepare the road for the admission of the caustic-carrier. The cure, therefore, is already half accomplished by what are deemed the incidental means. Is it not evident, that the practice would not be bad, if such means alone, unless there were special indications for the nitrate of silver, were entirely relied on for the completion of the treatment?

To what results does this argument conduct us? 1st. That nitrate of silver is a valuable agent in the treatment of irritable stric-



Ricord's Lallemand's  
Porte-Cautiques.

Ricord employs cauterization from before backward, in the following way: he introduces a canula, enclosing a stilet, armed at its extremity with a little cup; as soon as the canula is in contact with the stricture, the cup containing the powder of the nitrate of silver, which has been melted by submitting it to the flame of a candle, is made to project, and thus the part is cauterized.

In order to cauterize the parieties of a stricture, Lallemand's, but above all, the instrument I have described on a previous page, must be employed. The instrument should be either straight or curved, according to the seat of the stricture.



tures, because it allays irritation and the consequent spasm, and hence affords rapid and great relief. 2d. That it is of no use in destroying long and narrow or indurated strictures, and that it will not, often, alone effect a permanent cure. 3d. That in conjunction with bougies, it is of great assistance in such cases as may be accompanied with much morbid irritability, so that the bougie cannot be used without inflicting severe pain.

Little need be said of the *potassa fusa*. As a caustic, it possesses much more power than nitrate of silver, and if indiscreetly used, will assuredly give rise to the most unpleasant consequences. Its general effects are the same, and may therefore, be employed to fulfil the same indications. Its advocates allege that it gives less pain than lunar caustic, and that it often succeeds like a charm, when the other remedies fail. They recommend that the quantity should be very minute, so that it cannot do injury to the sound parts of the urethra. Used in this manner, I have no doubt that it may safely be resorted to whenever a caustic is required; but, for all the purposes for which I ever employ a cautery in these cases, viz.: to allay irritation, the nitrate of silver is quite sufficient. Therefore I have had no occasion to try the virtues of the potash caustic. I confess, besides, that I have always entertained towards it an aversion, amounting to a kind of prejudice, from observing the rapidity with which it liquifies and spreads itself beyond the bounds within which it is intended to be applied. All the objections that I have urged against nitrate of silver, may also be urged against *potassa fusa*; and, as it has nothing special to recommend it, I see no good reason why it should be expected to supersede the milder and more manageable caustic.

*Treatment by Incision.*—This mode of removing stricture was practised three centuries ago by De Vega and Diaz, and at the beginning of the seventeenth century by Mayerne, in France. After that time until about twenty years ago, it appears to have gone quite out of use, at which period, an attempt was made to revive it again. Many cutting instruments have been invented, but there are greater or less objections to them all. When the stricture is seated as far back as the curve of the urethra, and particularly if there be much substance to cut through, I am decidedly opposed to the employment of all such instruments. The operation is then necessarily one of difficulty and danger, and nothing but a necessity for overcoming a danger of greater magnitude, can justify its performance. When a cutting operation is imperiously called for, by the great suffering of a patient, it may be a question

with the surgeon, whether dividing the stricture with a knife internally applied, may not be done in preference to the external operations, such as I have already described.

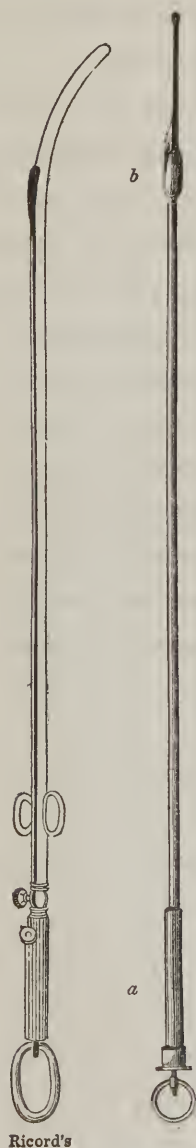
The only instances in which I ever adopt this practice, is when I have to deal with a hard, grisly, or cartilaginous stricture, situated anterior to the curve, so that I can reach it with a straight instrument, and can, consequently, divide it freely without danger of wounding the urethra in other parts. If the stricture be like a drum-head, or septum, or valve stretched across the canal, and of a hard nature, there is a decided advantage in resorting to this method, and when I meet with such cases, I very often use my knife. The chief benefit derived from this treatment, is the rapidity, and I may add the certainty with which I effect a cure. To remove the indurated stricture with the bougie alone, is always a very tedious process, and both patient and surgeon grow tired, long before any great and essential service has been done by it.

The instrument I use is represented in the margin. It is a straight canula, having on its extremity a probe, about an inch in length. A stilet passes through the canula; and, at its outer extremity, *a*, is attached to a spiral spring, which retracts the knife within its sheath after it has been thrust forward to make an incision. At its inner extremity is a blade with a rounded edge, concealed, when introduced, within the bulb or sheath *b*. The figure shows the knife pushed out as in the act of cutting.

I never attempt to use this instrument, until I am able to pass the probe point within the stricture. There is also in the margin, a cut of the instrument employed by Ricord, for the same purpose.

If necessary, by the size and shape of the stricture, I withdraw the instrument a short distance, turn it a little in the urethra, and perform the operation as before, cutting in a new place. I have sometimes thus incised in three different parts, and I am able to add, with complete success.

The stricture being divided, a bougie is introduced to the bladder. Afterwards, a piece of bougie is placed in the urethra,





as shown in the cut, to prevent a reunion of the divided surfaces of the stricture, and is only taken out, when the patient has occasion to make water. Keeping it in this situation for a few days, absorption to a great extent has been accomplished, and it may now be removed. Generally, no further treatment is required; the patient can void a full stream, and the cure may be considered as perfectly achieved. I have now presented in a brief manner, my opinions of the pathology of stricture, and have described the treatment which I have found to be the most successful. These will be amplified in another work expressly devoted to this subject, which I have now nearly ready for the press.

What I have recommended is not mere speculation, but is the result of a very extensive practice. For ordinary cases, I always find the bongie and dilatation quite competent to effect a satisfactory cure. The cantery I entirely reject as a *curative* agent, and only use it to allay irritability, so that I can perform, the more readily, the process of dilatation. The stiletto, for cutting in the deep parts of the urethra, I utterly denounce as unphilosophical, unsafe, and most of all, unsurgeon-like. Its employment is groping in the dark; and there is no experience, no length of practice, no anatomical knowledge, that can free it from the imputation of rashness. No man, I care not how great be his professional standing, should ever have an opportunity of thrusting his stiletto into me, so satisfied am I, that the most serious injury may be inflicted by the operation. But a cutting instrument, such as I have found useful and safe, and under such circumstances as I have described, may be occasionally called into requisition with decided advantage, and without the slightest danger, in skilful hands, of doing harm.



## CHAPTER XXIV.

### STRICTURE.—CASES ILLUSTRATING ITS TREATMENT.

#### CASE I.

A. B. aged 39, consulted me May 6th, 1844, and stated that he had always enjoyed good health until he contracted a gonorrhœa in 1834. From that unfortunate time he dated the commencement of his trouble. He had tried the skill of a number of medical men, but, notwithstanding, the clap stuck to him closer than a brother for nine long months, two months of which time he had been confined to his bed with swollen testicles, and sympathetic buboes. The remedies he used embraced every kind of article except injections.

He believed, he said, that he had been inoculated with all the clap poison in the city, for his penis had swollen up as large as his arm ; discharged an immense quantity of matter ; was subject to a terrible chordee, and, what was worse than all, the skin contracted in front of the glans, to such a degree, that he could not even urinate ; and it looked like a big well-filled purse, with a closely drawn string. This phymosis a doctor was obliged to relieve with a knife ; and after a tedious time of nine months, he regained a tolerably good condition.

About sixteen months afterwards, he began to notice some difficulty in making water, to which he paid but little or no attention for two more years, when the stream had become so small, as to make it troublesome to evacuate his bladder. He then applied to a medical man for assistance. He was treated with bongies,



and so far cured as to enable him to make water with but little difficulty, for some time ; but in 1840, the obstacle to urinating had again become apparent. He was now poor in pocket, and was therefore obliged to let it take its own way, until his application to me.

The stricture by this time had become so bad, that it was only with the greatest difficulty that he could void his urine at all ; while perinœal fistulæ were threatening to make his situation still more wretched. The meatus urinarius and glans penis, presented the characteristic appearance of long standing strictures — being swollen and hard, with a peculiar white and shining look, resembling to use a common expression, whit-leather.

#### TREATMENT.

I succeeded, after a few trials, in introducing a small bougie through the stricture, which was situated three and a half inches from the mouth of the urethra. For two weeks or more, I continued to pass different instruments, sometimes steel ones, and sometimes the hardest kind of conical gum elastic, but without doing much, if any good. The stricture encircled the urethra, and was unwilling to yield to the treatment for dilatation. Without wasting any more time, I determined to cut the stricture. I divided it at once in three places, and introduced, without the least difficulty, a large hard gum bougie, the end which I cut off, leaving only enough to fasten a piece of tape to, which I carried around the hips and made fast. This I requested him to wear constantly for one week, and only remove it to urinate ; in the meantime, to keep his room, and be careful not to do anything which might cause injury to the parts.

My directions were strictly attended to. Ten hours after the operation, a considerable discharge commenced, and continued until the fifth day, when the quantity diminished. I now withdrew the piece of bougie, and put in another of larger size, which he wore for ten days longer. The discharge gradually lessened, and two weeks afterwards, being able to make as large a stream of water as he ever could, I stopped it entirely, with a few injections of a decoction of green tea and alum.

I saw this man after the lapse of nearly four years, and found him in perfect health and prosperous circumstances. He had not, as yet, had any symptoms of a return of the stricture ; and upon examining the urethra, I could not discover the slightest vestige of induration. I feel quite convinced, that he never will be troubled again with the same stricture.

## CASE II.

C. P. aged 36, a gentleman of considerable distinction, from South Carolina, came to consult me, August 4, 1844. He stated that he had a very bad stricture in the urethra, of long standing, which was brought on by a gonorrhœa. From motives of delicacy he had neglected doing anything for it in his part of the country, fearing that it might reach the ears of his family, &c. He said that he had not passed any urine through the natural channel for three years, but that it found its way out through the parts behind the scrotum, by two fistulous openings. I expressed my surprise, that he should have allowed any considerations to prevent him from attending to a duty so important, long before. His reply was, "so it is — such were my feelings upon this subject, that I would rather have died than let my family know anything about it; and in fact, I have long expected that I should never recover from the loathesome and disgusting disease."

## TREATMENT.

I examined the parts with a bougie, and found the urethra completely plugged up in its membranous portion: at this time I could not pass any instrument. I told him, that I had seen many cases quite as bad as his appeared to be, but, notwithstanding, I had, by patience and perseverance, succeeded in passing instruments and making cures; and if he would make up his mind to undergo the tedious treatment, which the nature of his case would inevitably demand, I could, in all probability, succeed with him. To this he readily consented, and I commenced the treatment by directing him to take several warm hip-baths, steam the parts with hot water and hops, and rub bear's oil freely into the perinæum, and along the outside of the urethra; injecting, besides, the same kind of oil into the urethra. This he continued to do for five days. At the same time, I opened his bowels with castor oil, and ordered a light diet. On the evening of the fifth day, I passed with ease, bougie No. 4 into the bladder, and allowed it to remain in for two hours, without causing any very unpleasant feelings. Upon withdrawing it, a small quantity of urine followed. The next day, I passed the same instrument again. The third day, I

passed No. 5, and it was retained for four hours. On the night of the fifth day, I introduced the same instrument, and permitted it to remain in all night. On the seventh day, I passed No. 7; and in this manner I continued to increase the size of the instruments, until I could pass No. 13 with perfect freedom. I instructed him how to use it himself, and requested him to pass it upon going to bed, and sleep with it in all night, two or three times a week. From the first entrance I made into the bladder, urine began to flow through its old channel, and five weeks from the commencement of my treatment, nearly all the urine passed off in the natural way. In eight weeks, it was entirely discharged through the urethra, and the fistulæ in the perinæum began to heal up.

It has now been nearly four years since I first saw this case, and as the gentleman has become a resident of this city, I have the opportunity of seeing him frequently, and am happy both for myself and for him, that he has quite recovered.

I am convinced that ninety-nine cases in a hundred, of stricture in the urethra, can be cured by judicious treatment, without the use of caustic. I am no advocate for the use of escharotics in the treatment of this affection, being well satisfied that it almost invariably produces more or less mischief. The Hon. Edward P. Livingston, who was under my care for stricture, and who died from the effects of it, told me that he had been laboring under the affection for more than twenty-five years, and had been burned with caustic many times, and he declared it to be his strong conviction, that from its employment he had been seriously injured.

I will here take the opportunity to state, that Mr. Livingston not only had a very bad stricture in the membranous portion of the urethra, but he also had a great enlargement of the prostate gland. After freely fomenting the perinæum, &c., I made three attempts on different days, with the greatest possible caution, in consequence of his age and infirmities, but could not succeed in passing any instrument into the bladder. In fact, the bougie could not find its way into the smallest opening, but appeared to strike the impediment, as though it were hermetically sealed with a very solid material. It is true there was a trifling hemorrhage, caused by the point of the instrument, a very common occurrence in bad cases of stricture, but I did not make use of force enough to pass a bougie through a boiled turnip. He was attacked with chills and fever, and survived but a few days. I have always been under the impression that he might have been cured, or at least, had his life prolonged some time by an operation through the perinæum.



## CASE III.

O. S., aged 41, consulted me May 10, 1846, for a bad stricture in the membranous portion of the urethra. He had been the mate of a ship for many years ; had had the gonorrhœa many times during his life, and had seen much hard service ; but in all his sufferings, he declared he had never experienced anything like the pain he endured from the stricture. He stated that he had not entirely emptied his bladder for several weeks, and that all the water he could make, he was obliged to milk away by drops.

## TREATMENT.

I could not pass any instrument into the bladder at the first attempt, and I therefore ordered him to take several hot hip-baths ; sit over a pail of hot water, and rub bear's oil, or lard, freely into the perinæum and along the course of the urethra, and to inject into it warm oil. After having done this for two days, I had but very little difficulty in passing a small-sized bougie through the stricture. From this time I continued to introduce instruments, gradually enlarging them to the natural size of the urethra. At first I let the bougie remain in him from fifteen minutes to as much as four or five hours — requested him to sleep with the instrument introduced all night, and repeat this at least once and sometimes thrice in the week. On the last of August, he said that he was as well as ever he had been, and I discharged him cured, with a recommendation that he should keep a bougie with him and continue to introduce it once a fortnight for several weeks, allowing it to remain in about one hour each time ; after several months, to pass it occasionally ; and finally, leave off the use of it entirely.

Sometimes this kind of case will return after a length of time — varying very much in individuals — from one year to four or five ; and sometimes, they remain permanently cured for life.

During the treatment of strictures, everything relating to the case must be attended to. If there is much local inflammation, leeches must be applied and the patient treated antiphlogistically. I usually give patients diuretics and mucilaginous drinks.



Some authors deny that they exert the least benefit. For my own part I am convinced that they cannot do any harm, and I am very sure that they facilitate the cure.

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CASE IV.

R. R., aged 28, placed himself under my care, October 3, 1844. He had long laboured under a difficulty in making water, in consequence of a stricture which he supposed was the result of a gonorrhœa. I asked him if he ever had used injections, and he said he had not.

TREATMENT.

I found an obstruction about two inches from the lips of the urethra, and I experienced the greatest difficulty in getting an instrument through it, but finally succeeded. I at once introduced a probe-pointed instrument, which I use for such purposes, and divided the stricture in three places, in the presence of several physicians. I then passed in, as in the previous cases, a short piece of bougie, taking care to tie a bit of tape to the end of it, both for the purpose of keeping it from getting into the urethra and from getting out. I ordered him to remain in his room, and only remove the instrument to urinate, for four or five days. This being done, he could make as full a stream of water as he ever could. I afterwards passed a still larger instrument, a bulbous one I believe, which I requested to be worn four or five days longer, when he might take it out and consider himself well.

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CASE V.

W. S., consulted me for a stricture which had troubled him for a long time, on the 19th of September, 1843. This stricture was four inches up the urethra and had existed for ten years. He had been under the care of several surgeons, whose

treatment consisted chiefly, in dilatation, which gave relief for a few months, when he would be obliged to use the bougies again, and so on until he applied to me. I found but very little difficulty in getting a small conical-pointed bougie through the stricture, which was an induration or thickening of the mucous membrane and the subjacent parts, so as to form a kind of ring, closing the passage.

#### TREATMENT.

I divided the stricture as in the preceding case, in three places, without giving, scarcely, any pain, and treated it in the same manner — with perfect success. I have seen this gentlemen lately, and he informed me, that he as yet had had no signs of a return of the stricture, and I feel confident that he never will have any.

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#### CASE VI.

Mr. H. W., of this city, aged 50 years, an eminent lawyer, came to me for advice June 2, 1842, and stated that he had been punished for his sins about twenty-five years. His sufferings arose from an impediment in the urethra, which completely prevented the urine from passing out. For many years he had spent from fifteen to twenty minutes, and sometimes longer, every time he urinated, and he was obliged to milk it away at that. He had consulted several surgeons, but they had invariably failed to pass any instrument into the bladder; and as each operation gave him considerable pain, besides alarming him, he had never allowed them to persevere in “probing” him, as he expressed it. “Perhaps if I had,” said he, “they would have succeeded in getting something all the way through.”

After hearing his story, I told him that unless he would consent to let me use instruments in my own way, and take my own time in doing so, it was not worth my time to make any attempt at all. His answer was, “there is now no other alternative, use your own judgment, and if it is possible, relieve me as soon as you can.”

## TREATMENT.

From the account of his case, I expected, of course, to find great difficulty in passing the stricture. I first commenced by using a large-sized curved gum bougie, which advanced well enough until it reached the membranous portion of the urethra, when it made a full stand and satisfied me that it would not pass. I then took the next smaller size, and the next, and so on until I came down to the smallest instrument that could be of any practical use — without meeting with success, drawing only a few drops of blood. I then resorted to my usual fomentations and other hot applications to the perinæum; after which, I made another attempt without any better success. I now took a steel sound about as large as No. 5, bougie and but little curved; with my left fingers I drew the penis out nearly straight, putting it well on the stretch, and at the same time passed the instrument down to the stricture, and made gradual and firm pressure, which I continued for fifteen minutes, when the opposing obstruction gave way, and the sound entered the bladder, and out came a full stream of urine the moment the instrument was withdrawn.

The next day, I had no difficulty whatever in passing a large-sized bougie. I came to the conclusion that this obstruction was a kind of drum-head or membranous curtain, extended across the urethra. This gentleman has since been as well as he ever was — now five years, and I believe he will never experience any more trouble from it.

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CASE VII.

L. E., aged 58, consulted me July 12, 1844, and stated that he had been troubled in making water for many years, and had neglected to attend to it, thinking that it would never amount to anything serious; the stream which he voided was extremely small, and the impediment was situated at the fossa navicularis, and proved to be a case very similar to the last, with the exception, that this was a drum-head drawn across the lower extremity of the canal instead of the upper.

## TREATMENT.

I dilated the urethra with a speculum urethræ, and was able to see in the centre of the curtain, a very small opening, into which I passed a fine-pointed bougie, and enlarged the stricture so that I could introduce the point of a bulbous one, which, by pushing on, so broke down or tore away the obstacle that a full-sized stream of water could pass. I ordered the last used instrument to be retained in the urethra one or two hours every other day, for about two weeks, and the cure has been complete ever since.

This kind of membranous formation, or drum-head as I call it, is very rare ; I have never seen more than three or four cases.

There is no difficulty in curing them ; the only embarrassment occurs, in ascertaining, in the first instance, their precise nature.

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CASE VIII.

WM. C., placed himself under my care, July 6, 1847, for a difficulty in making water, which had existed about seven months. Upon examining the urethra, I found a stricture in the membranous part of the canal, and after several attempts, I succeeded in passing a small bougie through the closure. I allowed the instrument to remain in the urethra one hour, it producing but very little inconvenience. The next day, I passed a size larger quite easily, and kept it in two hours. Two days after, I passed a still larger ; and in this manner continued to introduce instruments, allowing each succeeding one to remain in longer than the last. Finally, I requested him to keep it in for five or six hours. Three weeks from the commencement of the treatment, I discharged him cured.



## CASE IX.

E. R., aged 28, a gun-smith, in the full enjoyment of health, and a married man of regular and steady habits, sent for me on the morning of the 23d of February, 1845. When I arrived at his residence, I found him in the greatest distress from a retention of urine, which had been brought on from getting his feet wet and taking cold.

## TREATMENT.

I introduced, without much trouble, a catheter of middling size, drew off the urine, and left, with a request that he should take a warm bath and drink freely of gum arabic water. In the morning of the following day, I was sent for again to repeat the operation. His bladder was full, and he was in great pain; I relieved him in the same manner, but with more difficulty than before. This surprised me, as he stated that my directions had been strictly complied with, and he assured me that he never, previously, had experienced the slightest trouble in urinating. I now ordered him to take the following mixture — a table spoonful of it three or four times a day :

℞      Sp: Otheris Nitrici,    ℥ij.  
         Tinct. Opii,            3vj.  
         Gum. Acaciæ pulv.    ℥ij.  
         Sacchar. Alb.        ℥j.  
         Aquæ Distill.        3viiss.

At the same time to take several mustard hip-baths, apply thirty leeches to the perinæum, to be succeeded by bread and water poultices, and to drink freely of buchu tea.

Notwithstanding all this, I was again sent for about eleven o'clock the subsequent evening, and found him writhing in agony with his bladder once more greatly distended. I used the catheter, but not without some difficulty, and emptied it for the third time. A considerable quantity of blood followed the last drops of urine, accompanied with some pain.

Finding that this treatment did not permanently relieve him, I took thirteen ounces of blood from the arm ; gave him a large dose of castor oil ; pushed up the anus a suppository, composed of three grains of opium and one of belladonna ; kept him under the nauseating effects of antimony, and requested him to drink copiously of the buchu tea. This had the desired effect. He sent word to me on the fourth day that all was right again, though he felt a smarting and soreness about the parts when making water.

This was what I call a truly spasmodic affection of the ejaculatory muscles, and nothing else.

I have been called to fifty similar cases, and if they are not spasmodic, I must confess I am at a loss to know what they are. Liston, as well as many other authors of equal distinction, deny that there is any such thing as spasmodic stricture of the urethra. Every writer has a right to express his own opinions. Some, certainly, are entitled to more weight than others ; but a knowledge of facts, derived from observation repeated again and again, clearly prove to my mind, that the urethra is just as liable to be spasmodically contracted as any muscle in the body. I however, do not mean to assert that the urethra itself is muscular, but merely that it suffers the consequences of spasm from the action of the muscles that are appended to it.

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#### CASE X.

P. B., aged 26, consulted me October 5, 1846, for a difficulty which he experienced in making water, and which had existed for a long time. The stream he said was very small, and whenever he urinated, the penis bulged out about an inch from the head of it, so that it looked like a hen's-egg.

#### TREATMENT.

Upon making an examination, I found a stricture situated an inch and a half from the meatus urinarius, very tough and unyielding to the bougie. I at once divided it,

which was a circular one, with my probe-pointed knife, in three different places, and introduced a short piece of a bougie, as described in the cases already related. He wore the instrument for three days ; I then changed it for a full-sized one, and requested him to let it remain in five days more — when, I predicted, he would be well — and during the time, to keep quiet in his room and live on a light diet.

I have had three or four cases, in which I was obliged to continue the use of the bougie much longer ; but generally, from three to ten days will effect a cure.

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#### CASE XI.

#### OPERATION FOR A NEW URETHRA.

Since this work was placed in the hands of the printer, I have been called to see Mr. —, of Lafayette Place, aged 34. The following are the facts of his case : Nine months previous to my seeing him, he had contracted a chancre on one of the lips of the urethra, which soon degenerated into an ugly phagedenic ulcer, that extended up the canal, and was not arrested until it had effected a horizontal division of the whole glans, leaving a comparatively thin flap above and below. The prepuce, which was very long, by the adhesive inflammation, had been united to the remaining portions of the glans, forming a kind of phymosis. The passage of the urethra had been closed by the same process, and for an inch and a half backwards was entirely imperforate. The water had found an outlet on the dorsum of the penis near the pubis, and another through a sinus running between the common integument and the corpora cavernosa, obtaining an exit at last, through the puckered fore-skin. He had a large ulcer on the inside of the left thigh, three on the top of the head, and a large prominent node on the forehead. He was much emaciated, and so feeble as to be unable to get out of bed. For several months, in consequence of pain, he had not slept more than an hour each night. The case, altogether, was truly one of the most deplorable description.

## TREATMENT.

His penis being much swollen and painful, I directed warm poultices to be diligently applied to it, and continued them for several days. Internally, he took the following prescription :

℞ Sarsaparillæ rad. ℥j.  
Mezerei cort. rad. ℥ss.  
Arctii Lappæ,  
Guaiaci lig. āā ℥ij.  
Serpentarii Virg. ℥iss.  
Chimaphil. Umb. ℥ij.  
Aquæ, Oxvj.

Boil down to one gallon of fluid, strain, and add two pounds of refined sugar and one quart of alcohol.

In eight ounces of this decoction, I dissolved one scruple of the acetic extract of colchicum and half a drachm of iodide of potassium ; and administered a table spoonful at a dose, three times a day. The patient also took, three times a day, one grain of the iodide of mercury.

On the third night after taking the medicine, his pain had left him, and he slept without disturbance.

The inflammation about the penis being reduced, I proceeded to the operation, assisted by Dr. Newton, in the presence of several other gentlemen. I excised the divided glans and elongated prepuce, as the first step. I next made an incision into the urethra, about two inches below the truncated extremity, introduced a trocar guarded by a canula, and pushed it from behind forwards, until I had completed an opening on the stump. Into the passage I directed a large-sized bougie, and closed the wound I had made in the urethra with four sutures. The urethra I kept dilated by retaining about four inches of the bougie in the passage, and there fixing it by means of tape. When he had occasion to urinate he removed it, and afterwards returned it to its place. I prefer using the bougie in this manner to keeping a catheter in the bladder ; for I like the plan of washing out the urethra as often as



convenient, when it can be done without danger of the water passing into the fistulous passages. The penis was bandaged from behind forwards. The urine now flowed as freely through the artificial as ever it had done through the natural canal.

The swelling of the organ subsided, the incision into the urethra healed without suppuration ; while the extremity threw out healthy granulations and soon closed over. In less than three weeks from the day of the operation, he left his bed and was able to walk about the room as well as ever, feeling only a weakness that was consequent upon his long confinement and sufferings.

I kept him under the influence of the alterative medicines which I at first prescribed, and now he is able to attend to his business as usual, all the syphilitic symptoms having rapidly vanished.

## CHAPTER XXV.

### FALSE PASSAGES.

DEFINITION. — Usual causes. — Where they are most commonly situated. — A peculiar condition of the mucous membrane may favor them. — Differences in instruments. — The operator often in fault. — The proper way to pass the instrument. — Difficulties of knowing when a false passage exists. — Necessity of caution. — The porte-empreinte for taking a cast of the part. — Further directions for proceeding. — No certain signs to distinguish a false passage — pain, hemorrhage. — Experience useful. — The treatment : catheter sometimes necessary. — Puncture of the bladder.

A FALSE passage is an accident which usually happens to the urethra from introducing instruments into the bladder. They nearly always occur, in consequence of a stricture or enlarged prostate, and are generally produced, by forcing the catheter or sound out of the natural channel into the surrounding substance. It is said by Amussat, that they also may be occasioned by improperly applied cauterization. This statement may be correct, but I have never met with any fact which could lead me to believe that such a result takes place from the use of the cautery.

As strictures are most common at the beginning of the membranous portion of the urethra, immediately behind the bulb, so it is at this situation that false passages are most frequently found. The shape of the canal may, however, exert some influence in the production of such casualties at this particular spot. There is, however, no part of the urethra in which they are not, occasionally, to be seen. In the prostatic portion, they are by no means uncommon.

False passages are, oftener than elsewhere, made in the inferior arc of the canal ; but there is no part of the circumference exempt from them. There is every con-

ceivable variety in the circumstances attending them — in their size, extent, and place of termination. Generally they end in a *cul-de-sac*, somewhere in the spongy tissues, but they are sometimes known to extend to the bladder or rectum.

It is probable that the formation of false passages is favored by a peculiar condition of the mucous membrane, as well as by stricture. No doubt pathological changes may render the membrane lining the canal so soft, as to be very easily lacerated, and that it is, therefore, when in such a state, more readily broken and penetrated, than when it is more healthy or differently affected. Instruments, also, have some influence on the tendency to false passages. Those of the metallic kind, which are stiff and inelastic, and those that are small or sharp-pointed, are the most dangerous ; while such as are soft and flexible, and of considerable size, very rarely do injury.

A common source of the mischief, is the hand of the operator. If the instrument be pushed forward too rapidly, and with force, when it reaches the point of obstruction, or the natural curve of the urethra, it may be plunged through the membrane into the part beneath, before the surgeon is aware of any accident. He perceives that the instrument advances no further, but he knows not that injury has been inflicted, until, perhaps, he is apprised of it by a considerable effusion of blood. A want of anatomical knowledge, necessarily increases the difficulty of introducing the bougie, and is not unfrequently a source of accident, which, otherwise, would be avoided.

To pass the instrument in a manner most favorable to safety and success, the surgeon should hold it short, by which he obtains more control over its movements, and instantly becomes sensible of any obstacle that opposes its entrance. There is one thing that may embarrass even those of experience : when the bougie meets with an obstruction, it is not always easy to decide whether it is arrested by a stricture, by a false passage already existing, or by some of the natural difficulties of the urethra. At the bend this may especially be the case. If the patient has never been subjected to catheterism, we may rationally conclude that there is no false passage ; but, should the history of the case be otherwise, then our judgment, guided by the most careful manipulations, will, perhaps, be able to decide correctly. It is obvious that great caution is demanded, for, by rashness, instead of penetrating the stricture, we are liable to break open a new passage, and do much injury to the patient.

The *porte-empreinte*, of which I have spoken and given a representation in the Chapter on Strictures, will greatly aid us, in these cases, in making an exploration. Should there be a stricture and false passage, or stricture alone, or neither the one nor the other, but a free channel, by properly using this model bougie, it will probably advise us of the fact. Doubt is now dissipated. Having obtained a cast of the urethra, we know exactly what we have got to encounter, and, possessed of the proper skill, we may proceed with a strong feeling of confidence.

The penis should be drawn upon the instrument, by which operation, the canal is straitened out ; and, if there should be any plicæ, or irregularities in it of any kind, or if there be follicular openings, or false passages, we shall, in this manner, either diminish or entirely remove them. It is important to have an idea of the situation of the beak of the instrument as it advances towards the bladder, so that we may depress the handle and manœuvre properly to keep it in the axis of the urethra. When it has arrived at the prostatic portion, and an obstacle presents, the finger passed into the rectum, may be made to afford essential assistance, by elevating it so far that it will, probably, glide over the gland, and slip at once into the bladder.

It must be confessed, notwithstanding, that there is much difficulty, at times, in deciding upon the existence of a false passage. It may be supposed, that, when the urethra is torn, there will be considerable pain, and certain sensations, such as tearing, or pricking, to warn us of the accident. These sensations are not to be implicitly relied on, as they may occur when the bougie is engaged with the stricture, or they may be absent when we have made extensive lacerations. The general irritability of the urethra may be such, that intense agony is felt merely on passing an instrument, when no particular obstruction is encountered. If pain be accepted as a certain sign, when such sensibility exists we should receive an erroneous impression. On the other hand, we might go confidently forward, the patient making but little complaint, while the bougie is rending the tissues before it ; and, as it has sometimes happened to others, the first knowledge we have that a false passage has been made, is the unexpected appearance of the point of the instrument beneath the skin, far from the track of the urethra. It might be supposed that the resistance made by the sound part, would admonish us that the instrument had taken a wrong direction. This is not the fact. The natural tissues yield more readily, oftentimes, than a stricture ; and the bougie, once in a false passage, will, perhaps, cause less distress, than if it be kept in a strictured part.



It is evident from what has been said, that to determine the presence of false passages is no easy matter ; and that much judgment may be required to arrive at a correct conclusion. Experience will do much in resolving doubts ; it sharpens the perceptions, and enables us to appreciate apparent trifles, and weigh circumstances, that would otherwise pass unobserved. We have already remarked, that the *porte-empreinte* will lend us much assistance ; but, it must be admitted, that, useful as it is, like all the other sources of diagnosis, it may nevertheless fail.

But, happily, we do not always meet with this perplexity in ascertaining the existence of a false passage. Knowing that we have got one or more to deal with, how are they to be considered and treated ?

Fortunately, under ordinary circumstances, a false passage is an accident from which no serious consequences need be apprehended. If the patient is able to empty his bladder through the natural channel, it is manifest that there is no urgent necessity for surgical interference. The urethra should then be allowed to repose, and in a few days, we may expect that nature will have closed the wound that mis-directed art had opened. The more especially is such a result to be anticipated, if the passage has been made with a small-sized instrument, when the injury has the character of a puncture rather than that of a laceration, and will, from the first, exclude the urine more effectually, and favor the tendency to heal without suppuration. The direction of the passage, even when large, is propitious to a ready cicatrization, because, when water is passed, and the walls of the urethra thus distended, the orifice of the wound is inclined to be pressed together ; which circumstance, will, perhaps, prevent the entrance of the urine, that would prove, were it freely admitted, a constant cause of severe irritation, and might greatly delay the healing process. If there be much accompanying inflammation, the case is to be treated upon the usual antiphlogistic plan, both locally and generally ; and nothing should be omitted, which can assist in subduing this condition. When the rupture of the mucous membrane is so extensive, that water cannot be made, without aggravating the diseased condition, it becomes extremely desirable to introduce the catheter, and, by this means, empty the bladder.

These remarks rest on the assumption, that the false passage is external to a stricture. If the reverse of this be the fact, and there exist an opening in the urethra between the stricture and the bladder, however it may have been originally induced, the difficulties are much multiplied ; and we may expect infiltration of urine, sinuses

or fistulæ, or all combined. In this case, it becomes a matter of pressing moment to pass the stricture, and reach the bladder with a catheter, that we may avert the danger, or arrest the progress of those consecutive occurrences which may so readily take place. When there is complete retention of urine, and it is found impossible to introduce instruments by the usual means, it remains for the surgeon to determine upon the plan most advisable to be adopted in such an emergency. If there is reason to believe that the false passage, if continued, would reach the bladder, and that it already has advanced nearly to that viscus, it may be a question, whether it would not be the easiest, and, for the patient, the best method of affording relief, to force an instrument onward, and thus convert an embarrassing accident into a surgical operation. The other mode of meeting such a casualty, is by puncturing the bladder, either above the pubis or through the rectum, as I have described in the Chapter on Stricture.

## CHAPTER XXVI.

### INFILTRATION OF URINE, ABSCESS AND FISTULÆ.

CONSEQUENCES of Gonorrhœa and Stricture. — The immediate causes of infiltration : stricture ; ramollissement ; rupture of the urethra. — Symptoms : swelling in the perinæum ; the scrotum or penis ; intense pain ; inflammation ; rigors ; fever ; great debility ; pulse intermitting ; hiccough ; delirium ; death. — Gangrene. — treatment : incisions ; support the constitution by tonics. — *Fistulæ* succeed the above. — Diagnosis. — treatment : by dilating the stricture ; the use of caustic. — Blind fistulæ to be opened with the lancet.

INFILTRATION of urine and abscess, are accidents that frequently follow gonorrhœa, sometimes without stricture, but most commonly with it.

The immediate cause of Infiltration, is a rupture of the walls of the urethra, which may be occasioned by a softening, or *ramollissement* of the mucous membrane, from the effects of inflammation, or from an obstruction to the free passage of urine. If a stricture exists, there is always considerable pressure behind it, from the forcing efforts of the bladder to empty itself. A pouch in the urethra is formed, sometimes, of great extent, in which the water is retained, in greater or less quantity, after the bladder has ceased to contract in the act of evacuating its contents. In this situation it is a source of irritation, and may cause an ulcerative inflammation ; or, by stretching the mucous membrane to a great degree, this tissue may become so thin, that, finally, it gives way, and the water passes through. The urine will also escape, occasionally, by transudation, when the membrane is thin and soft, and there is much pressure.

These are the most common causes of infiltration. It now and then occurs from

abscess, arising from external injuries, or from unknown causes of inflammation in the deep-seated tissues of the perinæum. But abscesses are oftener the consequence, than the cause of infiltration.

*Symptoms.*—In straining to make water, when there is a stricture, the patient feels a sudden relief, although no urine, or only a small quantity passes through the urethra. There is no longer any expulsive effort made, and the irritation subsiding, the spasm of the stricture relaxes, and water can now be made the natural way. A period of temporary ease is enjoyed, but this period is only a lull. A new train of symptoms soon display themselves. A swelling in the perinæum, the scrotum or the penis, is the first circumstance that develops itself, accompanied with intense pain. The water has been diffused in the cellular tissue, and a violent inflammation immediately ensues, the more intense from the highly acrid nature of the fluid, which has been effused. When the urine is long retained in the bladder, it becomes doubly irritating, as the watery parts are partially absorbed — leaving behind the saline particles, with which it is impregnated. The constitution sympathizes with the local disease. The pulse becomes excited; it is full and hard, preceded by chilliness. This condition is succeeded by other symptoms of the typhoid kind. The pulse becomes feeble, irregular, and intermitting; the tongue is dry and cracked; the strength is wonderfully impaired; and the countenance is changed, and has a remarkably haggard and heavy look. The skin is cold and clammy, the patient is distressed by hiccough, which can only be relieved for a few minutes at a time. These symptoms are followed by low muttering delirium, coma, and death.

The appearance of the parts affected, assume a dark livid color, and are speckled with black spots, that increase in size, showing the presence of gangrene, and they become detached as large sloughs, leaving the muscles, aponeuroses, and bones, exposed. If a black spot is seen on the glans penis, it is a sign that the whole of the corpus spongiosum is infiltrated with urine. The process of mortification, sometimes, is frightfully extensive. The skin of the penis, the scrotum, the perinæum, and the lower part of the abdomen, have all been seen destroyed, exhibiting a huge ulcer actually appalling to behold, with the denuded testes hanging supported by their cords alone.

The common course which the urine takes, is towards the root of the penis, thence to the perinæum, the scrotum, and the body of the penis. Wherever the



rupture occurs, it does not appear, that there is much difference in the direction of the urine. The chief modifying circumstances, are the extent of the opening in the urethra, and the rapidity with which the infiltration takes place,

The symptoms, as we have above described them, are not always present, for if the water escaping into the cellular tissue be small in quantity, or, if there be timely scarifications, before the death of the parts ensue, so that the water can pass off through the integuments, the most fearful of the symptoms will be averted.

Suppose the urine escapes into the cellular membrane, either by transudation, or through a very small rupture. The patient will complain of slight shivering, and he may have a little reaction. In the perinæum there is a sense of fullness, which gradually increases, until a tumor, perhaps, may be distinguished in the part, surrounded with some oedematous effusion, especially in the scrotum. The skin becomes inflamed, and we are able to detect fluctuation of fluid, as if an abscess had formed beneath. This abscess, possibly, may burst into the urethra or rectum, or, if left to itself, will open exteriorly.

#### TREATMENT.

When we are aware that urine is infiltrated in the cellular tissue, no time is to be wasted, as the accident is liable to increase rapidly, and the deplorable effects already described, may complicate the case. The tissues must be at once separated, to give a ready exit to the water. The number, direction, and depth of the incisions, will depend upon the character and extent of the infiltration. The surgeon should not be satisfied, until he completely attains the end for which the cutting is done. If the infiltration be slight, but an abscess formed, it is important, in like manner, to open it with an instrument, and thus prevent the ulceration of the tissues, and the emptying of the abscess, by a natural operation. After such an opening, there will be a discharge of pus; and the urine will also be observed to pass through this outlet. The oedema of the neighboring parts now subsides, and by proper management, we may succeed, even in the worst of cases, in repairing much of the mischief which has been done. It is of paramount importance, to sustain the powers of the system; and tonics, such as cinchona or quinine, are especially indicated, when there is mortification, to support the constitution, and enable it to throw off the sloughs.

## FISTULÆ.

INFILTRATION and abscess will frequently leave behind a fistulous opening, but it is by no means, usually, a difficult matter to cure it. These fistulæ may have several external openings, but they very rarely have more than one when they open internally, which may be either in the bladder or urethra. It is unnecessary to speak of the primary cause of these passages; for what we have said of the preceding affections, will fully apply to this,—the cause being one link further off in the chain of morbid actions.

There are two varieties of fistulæ: the first opens externally, and is complete; the second, has only the internal opening, and may be compared to the *blind fistula of the rectum*.

They sometimes terminate in the rectum; sometimes, in the pubic region; at others, in the groin, the thigh, the dorsum of the penis; but generally, they end in the perinæum.

When an ordinary fistula opens either in the perinæum, or in the penis, or in any other situation near to the internal opening, the diagnosis is not difficult. Whenever water is made, a small quantity of it flows drop by drop through the fistula, and may be recognized by a peculiar urinous odor. But if the passage be of considerable extent, and if but a very small quantity of water pass into the opening, the diagnosis is rendered more obscure, because the only discharge is a kind of serum, destitute of the characteristic smell of urine.

The fistulous passage, along which the urine flows, is, in time, lined with a pseudo-mucous membrane, which, in obedience to the law of the economy, accommodates itself to the function that has been assigned for its performance. When the fistula has long existed, the neighboring parts become hardened, and the external orifice is commonly covered with pale-colored fungi, with the borders projecting and everted.

Urinary fistulæ give to patients the greatest annoyance, from the discharge which always occurs when they make water; and they are particularly disagreeable, when they are large, and the quantity of water considerable.

## TREATMENT.

If the fistula be large, it is more difficult to heal than when small; but in any case, no great deal of skill is required to effect a cure. So long as urine continues

to pass through the passage, that long will the fistula remain open. It is hence manifest, that the primary indication is to re-establish the channel through the urethra. This is to be done by removing the stricture. A small catheter may be used for drawing off the water, but it does not perhaps facilitate the cure, although it may afford more immediate relief. The best plan, I believe, is to commence the treatment by dilitation ; and it will be found, that so soon as the urine begins to pass readily through its natural canal, the fistulous opening will show a disposition to close. In a month's time, this measure alone will, oftentimes, complete the cure. There are other cases that may prove more intractable, and several months, or even a year, will scarcely be sufficiently long to effect the purpose we have in view. This part of the treatment, being the same as that recommended for the cure of stricture, it is unnecessary here to add more.

In aid of the bougie, (or, what some prefer, the sound,) the bottom of the sinus may be touched once in three or four days, with the nitrate of silver. This increases the tendency to heal. It may happen that the external opening will be inclined to heal more rapidly, than the internal one. This must be prevented, as, should the superficial parts close up, prematurely, the case will be reduced again to that of an abscess, and there will be another discharge of pus. To obviate this accident, while the deep parts of the fistula are stimulated with the lunar caustic, the orifice should be lightly touched, once in a week or ten days, with the potassa fusa, which will prevent the accident that I have spoken of. By pursuing this plan, we shall always succeed in healing a complete fistula.

There is, however, to be noticed, the blind fistula, that requires a treatment in some respects different. When we meet with a tumor in the perinæum, without any external opening, it is to be opened with a lancet, and thus converted into a fistula of the common kind. The subsequent treatment, is the same as already recommended.

It may occur that the tumor in the perinæum is very small, showing that the quantity of urine that enters it is comparatively trifling. When water is made, a little passes into it, and afterwards escapes from the sac that exists, by regurgitation. The disease, consequently, does not advance, and yet it cannot subside. This state of things may continue for years, without much change. The first thing to be done in this case, as in the preceding, is to pass a lancet into it, placing in the wound, afterwards, a little lint, to prevent it from healing by the first intention. After three or four days, the lint may be removed. We now observe, if, when the patient voids

his urine, any of it passes through the opening ; should this be so, the treatment is simply that previously indicated. If otherwise, and no urine flows, a piece of caustic potassa may be introduced through the wound, to the tumor, so as to cause a considerable slough. A portion of the tumor being thus destroyed, when the slough has come away it is probable that the case will now have become an ordinary fistula, and is to be treated accordingly.



## CHAPTER XXVII.

### HYDROCELE.

**DEFINITION.** — Causes. — Symptoms. — Diagnosis. — Scirrhus testicle. — Treatment. — Divided into palliative and radical : tapping ; trocar ; needles ; injections into the cavity — the different kinds — effects. — Accidents which may result from carelessness. — Treatment by electro-galvanism.

**THIS** affection, an accumulation of serum within the tunica vaginalis testis, is a very common disease, and may be traced to many different causes. There are other effusions giving rise to the same general appearances, and that have been characterized by the same common name, but they constitute, properly, other and quite distinct maladies.

The more frequent remote causes of hydrocele, are injuries done to the testicle, as from a blow, or bruise from a saddle, which excites severe inflammation. This subsiding, the parts are left relaxed and debilitated, and it is found that a gradual enlargement of the scrotum is taking place, from a slow effusion from the serous coat. This may occur in consequence of excessive activity in the exhalents, or diminished activity in the absorbents, or from a combination of these two conditions existing at one and the same time. In short, the ordinary pathological state of dropsy in any other part of the body, when present in this situation, is competent to give rise to all the symptoms of hydrocele. It frequently is brought on by a thickening of the coats investing the testis, and not seldom it is dependent upon a disease of the urethra. I have known it to be traced by patients to long protracted venereal excitement, or to retention of urine painfully continued. It may, in a word, be laid

down, that whatever is capable of producing intense excitement in the testicle, or in its appendages, leaving as it subsides a correspondent degree of debility, is a sufficient cause of hydrocele.

This form of the disease may sometimes be mistaken for collections of water, which gather in cysts, derived from unobliterated portions of the peritoneum that accompany the cord. Sometimes, the two forms of disease co-exist.

In all these cases there is great enlargement, and frequently the distention is really enormous — several pints of fluid having accumulated within the sac.

The various external layers become thickened, but there is very little, if any pain. The serum is not always of uniform color or consistence. Generally it is straw-colored, like other serous effusions, and contains albumen — at other times it is dark and thick.

The shape of the swelling is peculiar ; as it increases, it assumes a kind of pyramidal form, and in some degree resembles a large pear. The enlargement occurs in front of the vessels of the cord. This shape is produced by the cremaster muscle, which is connected to the cord by cellular membrane, and embraces the serous coat.

Hydrocele may, in most cases, be readily distinguished from the other affections of the same organs, which give rise to appearances somewhat similar. It is generally smooth, of a definite figure, and is somewhat transparent. There is a particular glossy surface ; when it is large, fluctuation may be easily perceived, and on examining the top, the cord is felt loose and unencumbered, showing clearly that the case is not one of hernia.

Such are the more common signs by which we determine the existence of hydrocele. But these are not always present, and then the diagnosis becomes somewhat difficult, and we are obliged to determine by other evidence.

If the apex of the tumor extend into the inguinal ring, we may reasonably suspect a hernia. We therefore inquire into its history. The swelling from rupture begins above, and descends by degrees ; that from effusion, commences below, and rises upward. This knowledge we must obtain from the patient. If the patient be placed upon his back, the tumor grasped, and neither position nor pressure cause any change in it ; if he be now requested to rise and cough, and if there be no distinct shock given to it from the agitation created in the abdominal cavity, then it is quite certain that the case is not hernia.

In scirrhus testicle, water is often collected between its coats, and it may be mistaken for hydrocele. The weight, and the pain occasioned by handling it, and other circumstances which point to a more formidable disease, will generally enable us to distinguish between them.

There is a species of enlarged testicle, offering so strongly the feeling of hydrocele, that it has often been mistaken for it. It is what is called the scrofulous testis. To the sense of touch it presents an elasticity precisely like that of a fluid. It is a soft enlargement.

These instances, in which there occasionally is difficulty in deciding upon their nature, warn us of the importance of fully considering all the facts pertaining to each particular case, previous to operating ; although, at the first view, it may appear to be of very easy diagnosis.

It will be inferred from what has been said of the cause of hydrocele, that the tumor is not always merely an effusion of water. It is sometimes accompanied with an enlarged testicle — in which case, there may be disease of both the testis and its tunics. This condition, when the quantity of serum is very great, we may be unable to detect ; but at other times, when the quantity is more moderate, it can be ascertained by the sense of hardness at the posterior part, where the testicle is nearly always situated.

Occasionally it will be found, that this organ, so far from having increased in size, is actually smaller than when in health.

In speaking of the exciting causes of hydrocele, it is important to observe the close relation existing between the urethra and the organs enveloped by the scrotum. It often happens that an irritation in this part, brings on morbid action in the testicle, and thus becomes the primary cause of the disease we have under consideration. To effect a radical cure, therefore, it is essential, if this fact be present, to ascertain it, and comprehend it in our general plan of treatment.

#### TREATMENT.

THIS may be divided into that which is palliative, and that which shall effect a permanent cure. The one is intended to remove the prominent symptom from which the affection derives its name, and the other, to remove the cause which produced it.

The palliative consists in evacuating the water. This is done most readily by means of the trocar and canula. The operation is performed by embracing the swelling with the left hand at its posterior part, putting the skin tightly on the stretch, while the trocar in the other hand, is entered at right angles with the tumor, at that part which is most prominent, and a little below the point which is midway between the neck and base. [See cut.] The puncture should be done with firm and steady pressure, and not by plunging, as has sometimes been recommended. When the canula has quite penetrated within the tunica vaginalis, which will be known by the ease with which it advances, the direction is slightly altered, to avoid injuring the testicle, that probably lies directly behind it. The handle must be depressed, carrying the point more upward, as is shown in the following cut ; the canula now should be thrust forward with the thumb, drawing at the same moment the stilet backwards. As soon as the cavity is emptied, to accomplish which, entirely, it is necessary gently to squeeze the sac and raise it from the bottom, the canula is to be withdrawn, and the part supported by a suspensory bandage.



A lancet pointed trocar is sometimes used for tapping, covered with a spring canula ; and when the object is merely to afford temporary relief, this is perhaps better than the ordinary round one ; but if a fluid is to be injected afterwards, then it should be set aside as unsuitable.

Another method has lately been practised, and with equally satisfactory results. Instead of puncturing with the trocar, a common needle may be used of middling size, (a sharp-pointed darning-needle is the best,) which is introduced in several places, from each of which, a drop or two of fluid makes its appearance externally. Internally the opening continues longer unclosed, and the contents of the vaginal tunic gradually oozes into the cellular tissue between the coats, causing, in this way, an anasarca of the scrotum, instead of a proper hydrocele ; and the fluid, which has changed its situation, is ultimately removed by absorption. This operation, which is very simple, may often be repeated. As the quantity of water is diminished, increased caution is required in making the punctures, lest injury be done to the tes-



ticle, which has approached nearer to its surrounding membrane. Sometimes, in this manner, a perfect cure may be accomplished — but it is not to be confidently relied on ; for frequently it occurs, that the effusion will continue and the tumor be reproduced as in the first instance. There is nothing to recommend it, except the ease with which it may be done, and the greater readiness with which timid patients submit to it, than to the use of a larger instrument.

To effect a permanent cure, the mode of procedure is the same as that already described, with the trocar and canula, but we must provide ourselves, also, with a small gum-elastic bottle, having a nozzle fitted to the canula, and made complete with a stop-cock. Some surgeons think a bladder better, as there is less liability to inject air with it. We should have ready for use, at the same time, the fluid that is to be employed as an injection. Various kinds of injections are used; but as the chief object is to produce a mild inflammation of the serous membrane, any moderately stimulating fluid will perhaps answer the purpose. Wine and water has long been popular — three-parts of the wine to one of water ; cold water alone ; a solution of sulphate of zinc ; pure port wine ; a solution of iodine, &c. If the astringent salt be used, we should dissolve a drachm of zinc, in sixteen ounces of water. Mr. Liston,\* the great London surgeon, prefers strong port wine to anything else ; Mr. Velpeau, the great Paris surgeon, is accustomed to employ injections of iodine ; and the success of his practice has caused it to be generally adopted in France. The strength of wine being variable, it is, on this account, less to be relied on than on those injections, the strength of which we can accurately regulate. Whatever be used, however, the effects are to be looked to after the injection has been made. Sometimes, the strongest gives very little uneasiness ; in other instances, it produces much pain and great irritation. We, therefore, cannot exactly decide in advance, the strength we may require to complete the cure.

About four ounces of fluid is the proper quantity to inject at one time. It should be permitted to remain in the sac from two to five minutes ; or, if there be much uneasiness, for a shorter space, when it may be allowed to escape, and a fresh injection is to be used. We conjecture that we have done enough to attain the object in view, when the patient complains loudly of the irritation or pain. The cavity is next to be evacuated completely, the surfaces pressed gently against each other, and the

\* While this work is going through the press, science has been called to lament his death.

canula removed. It has been found necessary by Mr. Liston, in cases in which there was an unusual degree of insensibility, to resort to the undiluted ardent spirits, such as common whiskey, and with the best result.

The effects of this operation is a high inflammation in the tunica vaginalis, a swelling of the testicle, and a slight redness of the scrotum. So great and rapid is the enlargement of the whole tumor, that it might be supposed the hydrocele had returned, and was of a worse kind than in the first instance. Effusion of colored serum into the cavity, and serosity into the cellular tissue uniting the different investing coats, accompanied with pain in the parts and shooting back into the loins, very soon ensue after the injection has been made. Coagulable lymph is thrown out, the walls of the serous membrane become in the end agglutinated together, and the cavity obliterated. The fluid which may happen to remain in the sac gradually is absorbed, and an equal action is established between the exhaling and absorbing processes.

Easy as is the performance of this operation, yet by carelessness, or gross ignorance, it may sometimes be accompanied with the most serious consequences. It should always be ascertained by the surgeon, previous to injecting the fluid, that not only is the point of the canula, but also the opening near its extremity, fairly introduced within the cavity. During the manipulations, the tunica vaginalis may become detached from the membrane surrounding it, as shown in the cut, and the probabilities are then increased, that the irritating injections may reach a wrong destination, by being forced into the cellular tissue, into which it most readily enters. Such an accident will be followed by violent inflammation of the scrotum, fever, pain along the cord, in the loins, and sometimes by extensive suppuration and sloughing. This misfortune has befallen even the most eminent and accomplished surgeons, but it ought not, and, assuredly with the patient, will not be received as a good excuse, when it happens in less experienced hands. Caution may always prevent it; and if professional reputation be worth a surgeon's solicitude, he will, in all cases, be perfectly certain, as he proceeds with the operation, that no such mishap can reasonably be laid at his door.



There is another method of curing hydrocele, that has been tried in Paris with

success, but we cannot perceive that it possesses any substantial advantages over the modes already detailed. For this purpose, galvanic electricity has been employed. Two sharp needles, one connected by a wire to either pole of a common-sized battery, have their points introduced into the cavity of the tumor, at opposite sides. The machine is now set in action, and a current of electricity is conducted by this means through the hydrocele. Much pain is experienced, probably from the heat generated in the needles, by the great amount of electric fluid which traverses them. After the galvanic action has been continued for half an hour, the operation may cease until the following day. It will be perceived very soon, that the tumor is diminishing rapidly in size ; and a few days have been found long enough to perfect a radical cure. This way of removing hydrocele, has not been repeated sufficiently often to establish its character. Although I have said, that, *substantially*, it may be no better than the operation by injection, it is, notwithstanding, less formidable to the imagination of timid patients ; it is exceedingly easy to do ; it does not appear to be followed by any painful inflammation, which is essential to the tapping and injecting operation, and there is no danger of such accidents as I have described.

After the operation for hydrocele, it will generally be sufficient for the patient to confine himself to his room ; but, should the inflammation become violent, it will then become necessary to put him to bed, and treat him upon the usual antiphlogistic plan, with poultices, leeches, purgatives ; and, if the case be one of particular severity, with nauseating doses of tartrate of antimony, and such other remedies as the necessity of circumstances suggests.

There are other effusions besides that just described, that are sometimes met with, and that are known as varieties of hydrocele. They are dependent on causes different from those producing a fluid within the tunica vaginalis testis. I shall merely notice such as are the most important.

#### CONGENITAL HYDROCELE.

THIS is an accumulation of fluid within the tunica vaginalis, which occurs before the communication between the abdomen and the sac enclosing the testicle is closed. The swelling is sometimes considerable, particularly when the patient is in the upright posture ; and it is of an oblong shape. Being surrounded by water, the testis cannot be readily felt, but the spermatic cord may generally be perceived situated behind, and inclined towards the outer side of the superior part of the tumor.



By pressing the swelling, the water gradually is forced into the abdomen; it must, however, be observed, that in every case, this displacement of the fluid is not readily effected — and it may require some management and patience. The circumstance that we have just related, is conclusive in making a diagnosis. It may be added, that the tumor is almost always translucent.

#### TREATMENT.

If there happen to be a congenital hernia complicated with hydrocele, the first thing to be done is to return the intestine to the abdomen. Methodical compression made upon the ring, together with topical applications, are generally resorted to, and in most instances, will be sufficient to effect a cure. I have in several cases, permanently removed the affection, by simply tapping and drawing off the water. Injections are universally condemned, as there is danger that the fluid may pass into the cavity of the abdomen, and produce a fatal peritonitis.

We sometimes meet with HYDROCELE OF THE CORD, which is constituted either by infiltration throughout the cellular tissue of the cord, or by an accumulation of water in cysts. Hence this description of hydrocele is divided into two varieties.

*Hydrocele from Infiltration*, is, in fact, a collection of serum in small cells, involving, sometimes, the whole extent of the cord, from the epididymis to the inguinal ring; at other times, only a part of this organ is implicated, either downwards or upwards. The tumor or swelling gives the idea of a soft thick cord; it is without pain, or any external signs of inflammation.

This form of hydrocele is scarcely ever troublesome to the patient; and unless it acquires a considerable volume, which is very rare, it may even escape the observation of the patient himself.

*Treatment.*—So long as the affection produces no inconvenience, it is advisable to do nothing. When, however, it becomes large, and shows a disposition to inflammatory action, it may be necessary to have recourse to the aids that surgery can afford. Palliative treatment is utterly useless. What we do must contemplate a radical cure. The only operation that has been found of service, is that of incision. This operation is more serious and difficult than that performed for vaginal hydrocele, as the wound is much greater, and there is danger of injuring the vas deferens, as well as the spermatic veins and arteries. The whole of the tumor must be laid



open, and the water liberated from all the infiltrated cells, by making moderate pressure. The wound is now to be filled up with a pledget of lint, and layers of linen and compresses are to be applied over the whole. When suppuration is established, the lips of the wound may be approximated, by employing strips of adhesive plaster.

The general treatment, if any be required, is the same as that which is indicated for wounds in any other part of the body.

*Encysted Hydrocele*, frequently succeeds to the affection last described. Some of the little cells containing fluid, may become gradually distended, until they have attained such a size, that they constitute cysts of considerable magnitude. There may be but one of these cystic tumors, or there may be several. It is not difficult, usually, to distinguish this from other affections of the cord, but it may be mistaken for a supernumerary testicle.

This affection nearly always has a very slow progress. Rarely is it seen larger than a hen's egg, and it gives very little annoyance to the patient. The treatment is the same as that recommended for hydrocele of the tunica vaginalis — by penetrating into the cavity of the cyst, and treating with injections of a stimulating character.

## CHAPTER XXVIII.

### CIRCOCELE: VARICOCELE.

DESCRIPTION. — Symptoms. — Causes. — May be mistaken for omental hernia. — The diagnosis. — Treatment: local bleeding and lotions; tying spermatic artery; castration. — VARICOCELE: resembles circocele. — Produced by same causes. — Cooper's operation for its relief.

THIS is a varicose enlargement of the spermatic veins, and usually is confined to the spermatic cord. It generally commences by the side of the testis, at the most dependent part of the cord, and seldom extends within the inguinal ring. There is a sense of weight in the scrotum; an irregular knotty feeling, often presenting a sensation under the fingers which has been compared to a bundle of ropes or earth-worms. The vessels, in truth, are so enlarged, that they can readily be distinguished, and this resemblance to worms, therefore, is not at all fanciful.

A recent circocele is free from positive pain, but when pressed, there is a little tenderness. In the advanced stages of the disease, the pain becomes severe, reaching sometimes to the back and loins.

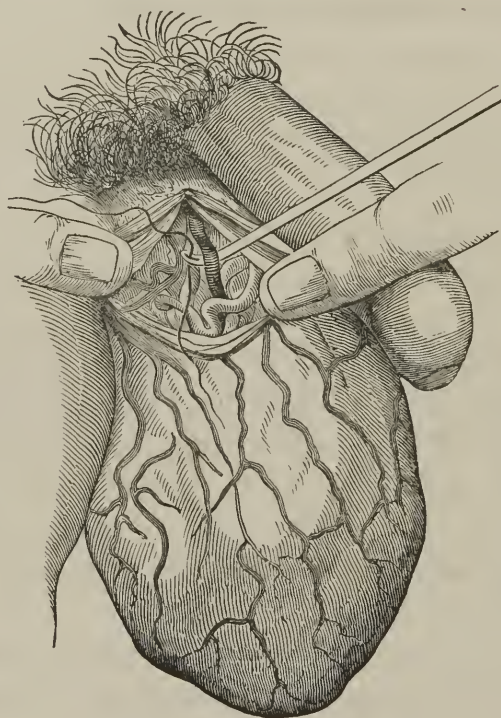
Sometimes it does not go beyond the first stage, but is confined to the spermatic cord and epididymis, and will remain in this condition for many years without any perceptible change.

### CAUSE OF CIRCOCELE.

WHATEVER prevents a free return of the blood into the general current of the circulation, may give rise to this affection. This may be a relaxation of the coats of the veins themselves; a tumor situated in such a position as to make pressure upon

the cord, a truss worn for hernia, long standing, walking, riding on horseback, violent efforts of the body, great exertions of the lungs, and whatever else has the effect of interrupting or augmenting the circulation in the parts.

It has been mistaken for omental hernia. The history of the case will guide us in distinguishing between them. In circocele, the swelling, in the first instance, is not noticed at the abdominal ring. If the patient be laid in a horizontal posture, and pressure applied, the swelling will disappear. By placing, now, the finger firmly upon the ring, with so much force as to impede the circulation, and requesting the patient to rise, if it be circocele, the swelling will return with increased size—but if it be hernia, no perceptible change takes place.



Operation for tying the spermatic artery.

#### TREATMENT.

**SHOULD** the disease be produced by the pressure of a truss, the remedy, of course, is to remove or so adjust it to the inguinal ring, as to relieve the cord. If by a tumor, all our efforts must be directed to its absorption, which frequently may be attained by frictions of mercury or iodine made directly over the spot. The scrotum

is to be placed in a suspensory bandage, to favor the return of the blood ; and sometimes, particularly if there be any tendency to inflammation, leeches or scarifications will prove of much service. The patient should observe the horizontal posture, avoid all physical efforts, and apply cold lotions.

The operation of tying the spermatic artery, has been successfully performed by Dr. Jameson, of Baltimore ; and it is one which commends itself to the profession, after all other remedies have failed.\* The danger which may be apprehended of a loss of function in the testicle, is not sustained by the results ; no perceptible change in this respect, ensuing from the operation. [*See cut on page 334.*]

When the pain and general distress have become very intense, the operation of castration has been done, affording immediate relief, and ending in a complete cure. It need scarcely be observed, however, that this proceeding should never be resorted to in ordinary cases. Should a surgeon be so enterprising as to adopt this remedy upon slight pretexts, he will, in the end, most certainly lose more reputation than he can hope ever to acquire by it.

VARICOCELE is an affection, closely resembling circoccele. It is produced by the same causes, but it is more especially an enlargement of the veins of the scrotum. Usually, it is a very trifling disease ; occasionally, however, it becomes so inconvenient as to demand surgical attention. The same remarks which have been made respecting the treatment of circoccele, apply to varicoccele. Sir A. Cooper several times successfully performed the operation of removing part of the scrotum, by which he furnished the testicle with a better support, and lessened the inconveniences that the patient suffered from.

\* See American Medical Recorder for April, 1825.



## CHAPTER XXIX.

### DISEASE OF THE PROSTATE GLAND.

THE Prostate Gland, where situated.—Its diseases.—*Causes*.—Whatever may produce inflammation of the inner extremity of the urethra, may be a cause.—*Symptoms*.—Pain and general uneasiness; strong desire to urinate; some of the urine remains in the bladder; the gland may be felt enlarged by introducing the finger in the rectum.—In acute inflammation, other symptoms: abscess; termination. *Treatment*: when acute, antiphlogistically; abscesses should be opened.—Retention of urine, and the mode of relieving it.—The catheter may be retained in the bladder.—Operation by puncture.—Tonics.—Change of air; balsams; opium.—When chronic, how treated.—Iodine. In persons advanced in life.

THE prostate gland is situated at the neck of the bladder, and at the beginning of the urethra, embraces it, and, although contrary to what, from its position, would be anticipated, is often subject to disease, which may be acute or chronic. The latter species of inflammation is by far the most common, and occurs most frequently in men who have reached the advanced stage of life.

The ordinary *causes* of this disease are stricture, gonorrhœa, excessive sexual indulgence, onanism, the application of cold to the body, gout, rheumatism, injuries inflicted on the perinæum, calculi, irritating urine, &c. In fine, it would appear that whatever is capable of producing inflammation of the urethra at its inner extremity, may give rise to an affection of the prostate.

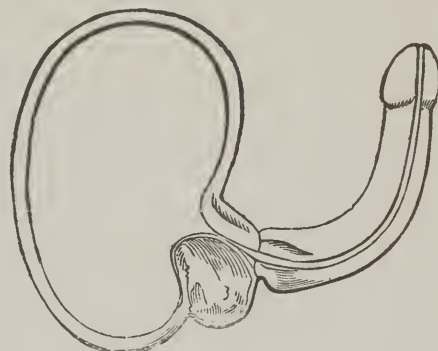
The *symptoms* which accompany it are a frequent and almost irresistible inclination to empty the bladder; great uneasiness and pain at the neck of that organ, extending through the perinæum to the glans penis, along the course of the urethra;

pain shooting along the thighs, and backward to the loins ; sometimes in the hypogastrium. In the rectum there is a sense of obstruction, and when the patient goes to stool there is much increase of his suffering, and the feeling which remains is as if the bowels had not been completely emptied. There generally is a partial retention of urine, which issues with little or no force, is flattened or broken, and when the obstruction is great, it merely drops between the legs. Sometimes the retention is complete, and no effort of forcing can expel a drop, but only has the effect of closing more tightly the valve, formed by what Home called the third lobe of the gland, over the vesicle orifice of the urethra. If the patient be not relieved of this condition, by the timely application of remedies, all the train of symptoms that have been described in the Chapter on Stricture, ensue. There is often a dribbling of urine, and, when the patient is lying in bed, it is most distressing. A certain quantity of urine, varying from one to several ounces, is retained, after the patient has made water, and this imparts to it, at all times, an alkaline or ammoniacal character, from the stagnation which takes place within the bladder.

If the finger be introduced into the rectum, the gland will be found sometimes, enlarged to several times its natural size. The left side, especially, seems disposed to this increase. [*See the Cut.*]

Such are the usual local symptoms that exhibit themselves in a diseased prostate. If the inflammation be acute, there are, also, added certain other characteristic signs. The uneasiness of the part is increased when pressed either through the rectum or on the perinæum ; there is much heat and a great sense of weight, tension and fullness over the region of the gland. There is severe tenesmus, and a constant desire to urinate and go to stool. A throbbing is experienced, such as is common in phlegmonous inflammation, wherever it may be situated ; a feeling of chilliness or distinct rigors occur, succeeded by fever, with all the other disorder of functions incident to pyrexia.

The acute inflammation of the prostate, ordinarily terminates in from seven to fourteen days, either by resolution, suppuration, or by assuming a chronic condition — never, so far as I know, by gangrene.



Enlarged Prostate Gland.

## TREATMENT.

If the disease be acute, and the patient young and phlethoric, the most energetic antiphlogistic measures are to be resorted to. Blood may sometimes be abstracted from the arm, but always leeches should be applied to the perinæum. Emollient poultices, hip-baths or hot fomentations, narcotic injections, brisk saline purgatives, and, in severe cases, antimonials, to produce nausea, may all be usefully employed.

Should we fail to effect resolution, and there seems to be a certainty of the formation of matter, then the antiphlogistic treatment is no longer to be pursued, but all our care should be given to facilitate suppuration, and detect its earliest signs. When this has taken place, we shall probably be able to discover an obscure fluctuation, denoting the existence of an abscess.

When abscesses occur in this situation, it is very rare that they are in the glandular parenchyma, but, rather, in the cellular tissue enveloping it. When this condition exists, we have an affection of a grave character to combat, as the gland may be completely infiltrated with pus, and there is no way, either through natural or artificial means, of removing it. Suppuration, therefore, almost necessarily advances; the general health is more and more impaired; irritative fever rises; and the function of nutrition is so indifferently performed, that the patient, ultimately, may sink from debility.

Some surgeons, and among them Sir Benjamin Brodie, recommend that so soon as pus is known to have formed, the abscess should be opened. The use of the bistoury, I believe, generally, may better be dispensed with. If there be a decided tumor in the perinæum, giving the idea that pus is making its way towards the skin, through all the deep tissues, then, indeed, it would be proper, without any delay, to open with the knife. But, as abscesses nearly always, enlarge towards the nearest mucous or cutaneous surface, we may expect that the pus will find its way to the bladder or urethra, and thus obtain an exit from the body, through the urinary canal.

It may happen that, while we are treating the inflammation, it will be necessary to relieve the patient from a retention of urine. In truth, in all these cases, it is advisable to remove the water with the catheter, although there should not be an absolute necessity for such a practice. The catheter employed, had better be rather small, with a wire fitted to it; and this should be bent to a shape a little more

crooked, than is demanded for other obstructions in the urethra. When the instrument is introduced, it is as well to permit it to remain in that position, as it puts the patient to no particular inconvenience, and it is thus always ready for use, without the necessity of passing it on each occasion that the bladder requires to be evacuated.

The case may be worse than we have described, so that instead of a partial there will be a total retention of urine. Such a condition is to be remedied, if possible, in the usual way, but if all efforts fail to introduce the catheter, we must have recourse to one of the methods recommended in the Chapter on Stricture, consisting in puncturing the bladder through the rectum, above the pubis, through the perinæum, or by passing an instrument along the urethra to the prostate, when the gland is to be perforated by forcing it directly through. [*See the cut representing this operation, under the head of Stricture.*]

The patient ought to be kept in a recumbent posture, with his hips slightly elevated; and all the methods are to be observed which will conduce to diminish inflammatory action.

When the matter has been discharged from the abscess, our care must be to keep up the strength, and improve the general health by every possible means. Change of air may be desirable, particularly to the sea-side, quinine, iron, sarsaparilla, the turpentine and balsams—in small doses, so that they may produce very slight action on the kidneys—are often useful, and should be employed. Opium, in such cases, is also a very valuable drug, and should not be neglected, as it lessens the irritation, from which the patient will, otherwise, greatly suffer.

If the inflammation be of the chronic kind, the treatment, is nearly the same as in the acute, except that there is no occasion for reducing the patient's strength. The same local applications, including leeches, are useful; and, should there not be suppuration, the iodide of potassium, or iodine in some other form, may be administered, both as a suppository, and by the mouth. By this means we may frequently succeed in removing the enlargement, and restoring the patient to a very comfortable state of health.

When the enlargement occurs in a person of advanced age, there is but little hope of doing more than to afford temporary relief. The suffering may be greatly reduced, by frequently introducing the catheter and drawing off the water. This should be done as often as three or four times a day. By neglecting this plan, the patient will be constantly harassed by a desire to urinate, as he is never able, unaided by arti-



ficial means, to empty, completely, the bladder ; and, consequently, he necessarily experiences the sensation of distention.

Most persons with whom such a necessity exists, may be instructed to introduce the instrument for themselves ; and, in a short time, will acquire much readiness in doing it. They will therefore, be, for the remainder of their existence, subject to some inconvenience, and slight suffering ; but, nevertheless, may enjoy life, and will finally die of some other disease.



Douche Bath.

THIS drawing represents the kind of douche bath which I have had constructed for the treatment of seminal diseases and affections of the anus. The same kind of application of water can be very easily made in any house where the Croton water is introduced.

## APPENDIX.

### FORMULARY FOR VENEREAL DISEASES.

#### SYPHILIS.

##### PILLS.

℞ Hydrarg. bi-chlorid. gr.  $\frac{1}{4}$ .  
Ext. Cinchonæ, gr. iv.  
Ext. Opii, gr. ss.

F. M. Make a pill. The dose is from two to three a day. This pill, with the exception of a slight modification, was recommended by Dupuytren. According to his observation, the cinchona and opium modify, beneficially, the action of the sublimate.

℞ Pulv. Althææ,  $\mathfrak{z}$  iv.  
Proto-chlor. Hydrarg.  
Resinæ Guaiaci, āā  $\mathfrak{z}$  ij.  
Syrupi Cydoniæ, q. s.

Formed into four-grain pills, the dose of which is from four to six a day. These are recommended M. Alibert.

℞ \*Unguent. Hydrarg.  $\mathfrak{z}$  ij.  
Glycyrrhizæ pulv. q. s.

This is to be made into one hundred and forty-four pills. They are employed by M. Fou-

\* This ointment is formed of equal parts of Mercury and lard. *Vide* Pharm. Gall.

quier, who thinks that they irritate the stomach less than any other mercurial preparation. The dose may be carried to six a day. Along with these pills he sometimes directs the use of baths and diaphoretic drinks.

℞ Hydrarg. proto-iodidi.  
Ext. Lactuæ, āā  $\mathfrak{z}$  ss.  
— Opii, gr. ix.  
— Guaiaci,  $\mathfrak{z}$  j.

F. M. Divide into thirty-six pills. In obstinate cases, that are accompanied with much induration of the tissues, two or three grains of powdered leaves of conium may be added. These pills are to be taken at night, four or five hours after the last meal.

℞ Hydrarg. bi-chlorid. gr. ij.  
Solve in aqua destill. q. s.  
Opii, gr. ij.  
Mellis, gr. xx.  
Micæ panis, q. s. ut fiant pilulæ No xl.

This is a formula of which the Germans entertain a very high opinion. Hufeland says that corrosive sublimate may be used without detriment, and for a long time, if given in pills

united with a mucilaginous vehicle, in order that it may dissolve slowly, which prevents nausea, colic and diarrhoea. It is proper to remark, he adds, that corrosive sublimate is apt to affect the lungs, and, therefore, in persons of a phthisical disposition, is contra-indicated. The dose of the pills is six, ten, and even twelve, morning and evening.

℞ Hydrarg. oxidi rubri, gr. j.  
Antimonii crud. gr. xl.  
Ext. Glycyrrhizæ, q. s. ut fiant pilulæ

No. lxxx.

Dose : ten at bed time, and in the course of time, in obstinate cases, twice this number may be given. Or the one-half of this quantity may be given in the morning, and the other half in the evening, after eating. This latter method of administration I prefer. The red precipitate is a very powerful preparation of mercury, and in this country has not been much employed internally. The form of it prepared by *calcination*, I like better than that prepared with nitric acid. It will sometimes do wonders when all the other forms of mercury have failed.

℞ Hydrarg. proto-chlorid.  
Antimonii sulph. precip. āā 3j.  
Guaiaci resinæ pulv. 3ij.  
Syrupi, 3j.

F. M. Divide in pills of five grains each, and give one, two or three times a day. It may be useful, if they act too freely on the bowels, to combine one-fourth of a grain of opium with each pill.

#### DECOCTIONS.

*Ptisan of Feltz.*

℞ Rad. Sarsaparillæ incis. ʒ iij.  
Gum. arabic. 3 ss—ʒ ij.  
Antimonii sulph. ʒ iv.  
Aquæ, ℥vj.

Boil to one-half; the antimony being enclosed in a bag and suspended in the fluid. Three or four wine-glasses of it may be given daily, carefully observing the susceptibilities of the patient. This medicine should be given, generally, for not less than two months.

The patient's food should consist of roast or boiled meat and vegetables, and salt must be abstained from, to prevent the decomposition of the antimony that is suspended in the decoction. It has been thought by some persons that no antimony is yielded to the mixture, but that it gives to it a small quantity of arsenic.

#### *Decoction of Zitman.*

NUMBER I.

℞ Rad. Sarsaparillæ, ʒ xij.  
Aquæ, ℥ij.  
Sacchar. alumin. ʒ iss.  
Hydrarg. proto-chlorid. ʒ ss.  
Cinnabaris, 3j.  
Fol. Sennæ, ʒ iij.  
Rad. Glycyrrhizæ, ʒ iss.  
Seminis Anisi,  
Seminis Feniculi, āā ʒ x.

The sarsaparilla and water should be boiled together a quarter of an hour, and then the sacchar. alumin. calomel and cinnabar added, enclosed in a linen bag, and all boiled down to one-third. The other ingredients being now added and allowed to stand for a short time, it should be strained for use.

This is termed the strong decoction. The weaker is made as follows :—

NUMBER II.

℞ Rad. Sarsaparillæ, ʒ vj.  
Aquæ, ʒ xxiv.  
Boil and add,  
Cort. Citr.  
Cort. Canell.  
Sem. Cardamomi minor.  
Rad. Glycyrrhizæ, āā ʒ iij.

On the first day the patient must take a purgative; each morning he is to take half-a-pint of No. 1, to be drunk warm, and keep his bed. In the afternoon a pint of No. 2: again half-a-pint of No. 1 in the evening—the two latter doses to be taken cold. This is to be continued for four days, on the fifth a purgative is given. The same treatment is then to be repeated for four days, and again followed by a purgative. After the interval of a week, if it be required, the treatment must be resumed in the same manner as in the first instance. The diet should be rigid.



*Decoctum Album.*

℞ Pulv. Cornu cervi, ʒ ij.  
 Medullæ Panis, ʒ vj.  
 Gum. Arabic. ʒ ij.  
 Sacchar. alb. ʒ j.  
 Aquæ, ʒ xxij.

Mix well in a mortar, boil all together half-an-hour in a covered vessel. This will supply a pint of the decoction. This is used externally, and also internally as a vehicle.

℞ Rad. Sarsaparillæ,  
 Rad. Smilacis Chinæ,  
 Ligni Guaiaci, āā ʒ ss.  
 — Sassafra, ʒ ij.  
 Aquæ, ℥ ij.

This should be boiled to one-half. Dose, two table-spoonfuls three times a day. It is perhaps the most useful when it is given in quantities and under circumstances calculated to produce some perspiration.

*Decoctum Mezereum.*

℞ Rad. Mezerei, ʒ ij.  
 Rad. Glycyrrhizæ, ʒ ss.  
 Aquæ, ℥ ij.

Boil with a gentle fire down to two pounds and strain. In nodes and pains this is very useful. The dose is from four to eight fluid ounces three times a day.

*Decoctum Pollini.*

℞ Rad. Sarsaparillæ, ʒ j.  
 Stipit. Dulcamaræ, ʒ ss.  
 Pulv. Antimonii crud. ʒ j.

Boil in two pints of water to one and a half, and add,

Fol. Sennæ, ʒ ss — ʒ j.  
 Boil, strain and add,  
 Syrupi Fumaricæ, ʒ j.  
 All to be taken in one day.

## SYRUPS.

℞ Rad. Sarsaparillæ concisæ,  
 Ligni Guaiaci, āā ℥ j.  
 Aquæ Fontanæ, ℥ xij.  
 Sacchari,  
 Mellis albi, āā ℥ iiss.

Having, in the first instance, made the decoction with the guaiacum and sarsaparilla, by boiling until the fluid is reduced one-half, the sugar and honey are to be added and dissolved. Two table-spoonfuls of this may be given for a dose three times a day.

℞ Rad. Sarsaparillæ, ʒ xxx.  
 Aquæ, ℥ xxiv.

Infuse for twenty-four hours, and then boil down to ℥ viij. Repeat this operation two more times, strain and mix the three decoctions, then add —

Flor. Borag. off.  
 Flor. Rosar. alb. āā ʒ ij.  
 Fol. Sennæ, ʒ iss.

Boil down to one-half, strain and add,  
 Sacchar. alb. et Mel. āā ℥ ij.

Two to four ounces may be administered daily. It is especially suitable for subjects who are disposed to constipation. When it purges moderately it may be advantageous, but if it gripes or produces diarrhœa, its use must be suspended.

℞ Sarsaparillæ concisæ, ℥ j.  
 Ligni Guaiaci, ʒ iss.  
 Flor. Rosar. rub.  
 Fol. Sennæ,  
 Rad. Glycyrrhizæ, āā ʒ j.  
 Ol. Sassafra,  
 Ol. Anisi, āā M iiss.  
 Sacchar. alb. ℥ iv.  
 Alcohol, dilut. O v.

Macerate the sarsaparilla, guaiacum, roses, senna and liquorice-root in the alcohol for fourteen days; then express and filter through paper. Evaporate the tincture by means of a water-bath, to four pints and a half, then add the sugar and dissolve so as to form a syrup. With this, when cold, mix the oils previously triturated with a small quantity of the syrup.

A syrup prepared after this method, probably possesses much more virtue than that made by boiling. The dose is a table-spoonful three or four times a day.

To any of these syrups may be added one of the preparations of mercury, particularly the corrosive sublimate. Ricord prefers, in



such cases, the cyanide of mercury, four grains to the pound, which is less liable to decomposition than the deuto-chloride. A tea-spoonful should be given night and morning, increasing, gradually, to half an ounce a day. If the bowels are too much purged, eight grains of the extract of opium may be added to the pound.

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#### OINTMENTS.

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##### *Unguent. Opiatum.*

℞ Axung. ℥j.  
Tinct. Opii, ℥j. Mix.

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##### *Ceratum Plumbi.*

℞ Cerat. Simpl. ℥j.  
Liquor. Plumbi di-acetatis, ℥j. Mix.

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##### *Unguent. Hydrarg. Opiat.*

℞ Unguent. opiat.  
Unguent. Hydrarg. āā ℥j. Mix.

Used in cases where the mercurial ointment is too irritating.

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##### *Unguent. Hydrarg. Chlorid.*

℞ Hydrarg. proto-chlorid. gr. vj.  
Cerat. Opiat. ℥ij Mix.

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##### *Unguent. Belladonnæ.*

℞ Ext. Belladonnæ, ℥ss.  
Axung. ℥j. Mix.

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##### *Unguent. Hydrarg. Iodid.*

℞ Hydrarg. Iodidi, ℥j.  
Axung. ℥j. Mix.

The quantity of the iodide may be increased to two drachms, if too great irritation be not produced.

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##### *Mel. Hydrarg. Iodid.*

℞ Mellis, ℥iss.  
Hydrarg. iodid. ℥j. Mix.

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##### *Unguent. Hydrarg. Oxid. Rub.*

℞ Hydrarg. oxid. rub. ℥j.  
Unguent simpl. ℥viij.

The mercury is to be added to the ointment previously softened over a gentle fire, and mix them.

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##### *Unguent. Hydrarg. Fort.*

℞ Hydrarg. ℥iv.  
Axung. ℥iij. Mix.

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##### *Unguent. Hydrarg. Mit.*

℞ Hydrarg. ℥j.  
Axung. ℥ij. Mix.

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##### *Unguent. Potassæ Iodid.*

℞ Potassæ Iodidi, ℥ss.  
Axung. ℥j. Mix.

When it is intended to introduce mercury into the system by means of frictions, I recommend that a mass of ointment, about half the size of a hazle-nut, be rubbed in every other night, either in the axillæ, the popliteal space, or over the cervical glands; and also on blotches, and around ulcers, wherever they may be situated upon the body.

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#### SOLUTIONS.

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##### *Solutio Opiata.*

℞ Aquæ Lactucæ, ℥viij.  
Ext. Gum. Opii, ℥j—ij. Mix.

In gangrenous affections, when the irritability increases, the quantity of opium must sometimes be decreased.

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##### *Solutio Ammoniæ Hydrochl.*

℞ Aquæ, ℥viij.  
Ammoniæ Hydrochl. ℥ij.

Solve. Particularly useful in resolving the inflammation and swelling of buboes.

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##### *Tincturæ Iodini dil.*

℞ Aquæ Destill. ℥iij.  
Tinct. Iodini, ℥j. Mix.

This tincture may be made stronger if it is desirable. It is employed in the treatment of buboes, hydrocele, etc.

*Sodæ Chlorinatæ dil.*

℞ Liquor. Sodæ chlor. ℥ ij.  
Aquæ, ℥ vj. Mix.

The quantity of soda may be increased till a slight tingling sensation and heat are produced. Used in the treatment of mucous tubercles.

*Solutio Hydrarg. Bi-chlorid.*

℞ Hydrarg. bi-chlorid. gr. xx.  
Aquæ destill. ℥ j. Solve.

For cauterizing vesicated surfaces in the treatment of buboes.

*Vinum Aromaticum.*

℞ Spirit. Lavandulæ comp. ℥ iij.  
Vini rubri, ℔ j. Mix.

To this may be added, when considered not sufficiently astringent, a few grains of tannic acid to an eight ounce mixture.

*Vinum Aromaticum c. Opii.*

℞ Vini Aromatici, ℥ viij.  
Ext. Opii, 3 ss. Solve.

Employed as dressings for chancres and buboes.

GARGLES.

*Mercurial Gargle.*

℞ Fol. Conii maculat. ℥ ss.  
Aquæ, ℔ iss.  
Fiat decoctio, et adde,  
Mellis, ℥ ij.  
Deuto-chlorid. hydrarg. gr. v.  
Tinct. Opii, 3 j. Mix.

℞ Sodæ Boratis, 3 iss.  
Tinct. āā Myrrhæ,  
Mellis, ℥ iss.  
Aquæ Rosarum, ℥ iv.

Fiat garg. May be used in ptyalism, or scorbutic affections of the gums.

℞ Plumbi Acetatis, 3 j.  
Syrupi simpl. ℥ j.  
Decoct. Hordei, ℔ j.

Fiat solut. In mercurial sore mouth.

℞ Argenti-Nitratis, gr. viij.  
Aquæ destill. ℥ iv.

F. solutio.

*Corrosive Sublimate and Lime-water.*

℞ Hydrarg. bi-chlorid. gr. j.  
Aquæ Calcis, ℥ j.

F. solutio. This may be advantageously employed in venereal ulcers of the throat.

*Aluminis et Potassæ Sulph.*

℞ Aquæ Rosarum, ℥ vij.  
Alum et Potassæ sulph. ʒj.  
Mellis, ℥ j.

F. solutio. In apthous affections; and mercurial stomatitis, when there is not great inflammation.

*Acidulous Gargle of Cinchona.*

℞ Cinchonæ, 3 ij.  
Mellis, 3 j.  
Acidi hydrochlorici, 3 ij.  
Aquæ, ℔ j.

This is a very useful gargle in mercurial sore throat, and especially if there be a tendency to gangrene.

℞ Zinc sulph. 3 ij.  
Mellis, ℥ j.  
Tinct. Myrrhæ, ℥ ij.  
Spirit. Vini Gallici, ℥ ij.  
Aquæ Rosarum, ℥ vj.

F. solutio. Useful as a gargle, to be used occasionally, when there is excessive salivation.

℞ Liquoris Sodæ chlorinatæ, 3 j.  
Aquæ destill, ℥ j. Mix.

This is useful in syphilitic and scorbutic affections of the gums.

FUMIGATIONS.

℞ Sulphureti Hydrarg. rubri, 3 iss—iij.  
This is to be placed in a red-hot iron dish, or a heated shovel, and the fumes inhaled as they arise. These fumes consist of sulphurous acid gas and mercurial vapor. The sulphurous



fumes are necessarily very irritating to the lungs, and therefore, especially to those in whom these organs are weak, very objectionable. A better plan is to confine the body of the patient in a close cover or box, leaving the head and face in the open air, as is done in sulphur fumigation. Fumigation is employed in venereal ulcers of the nose and throat, when it is important to get the system under the influence of mercury as speedily as possible. It may be added, that the black or grey oxide of mercury is preferable to the cinnabar, as neither contain sulphur, and hence the fumes may be inhaled without injury to the organs of respiration.

#### BATHS.

When baths are employed for diseases of the skin, syphilitic or otherwise, they are commonly used warm. The temperature of the water may be graduated, to some extent, by the constitutional susceptibility of the patient. If he is feeble, and much debilitated, it is necessary that the temperature should be higher than if the patient is vigorous. As a general rule, the bath should be tepid, ranging from 75° to 85° of Fahrenheit.

The bath of simple water is most commonly used. When I am applying mercurial frictions on the skin, it is my practice usually, to prescribe a tepid bath once or twice a week, by the assistance of which, I think I obtain the constitutional effects of the ointment more readily than when it is omitted.

Gelatinous baths, much in vogue in the French hospitals, are made by adding from one to two pounds of glue or isinglass to the usual quantity of water for a bath.

Alkaline baths are made by adding two pounds of sub-carbonate of potassa to the necessary quantity of water.

#### *Mercurial Bath.*

℞ Bi-chlorid Hydrarg. ʒ ss. j.  
Aquæ, q. s.

#### ESCHAROTICS.

The common caustics most usually employed, are the nitrate of silver and the potassa fusa.

Another caustic that is very powerful and frequently used, especially on the European continent, is the Vienna paste, which is made by adding to six parts of caustic potassa, five of quick-lime. When required for use it should be made into a paste by moistening it with a sufficient quantity of alcohol.

#### PLASTERS.

##### *Emplast. Conii c. Plumbi Iodid.*

℞ Emplast. Conii, ʒ j.  
Plumbi Iodid, ʒ j. Mix.

This is used in buboes, and especially in chronic engorgements of the testicles. If twenty grains of tartrate of antimony be sprinkled upon a plaster of emplast. conii of the size of the hand, it forms an excellent excitant where the buboes are indolent.

##### *Emplast. Ammoniaci c. Hydrarg.*

℞ Ammoniaci, ʒ viij.  
Hydrargyri, ʒ iss.  
Ol. Olive, ʒ ss.  
Sulphur. pulv. gr. iv.

The oil is to be heated and the sulphur gradually stirred in till they unite; then rub the mercury with them until the globules disappear; lastly, gradually add the ammoniac previously melted, and mix the whole together.

#### CATAPLASMS.

##### *Cataplasm. Fermenti.*

℞ Tritici Farinæ, ℥ j.  
Cerevisiæ Ferment. ʒ x.

Mix, and expose it to a gentle heat until it begins to rise.

##### *Cataplasm. Lini.*

℞ Aquæ bullient, Oj.  
Seminis Lini, q. s. to produce a proper consistence.

##### *℞ Cataplasm. Lini, ℥ j.*

Unguent. Resinosi, ʒ ss—j.

This poultice may be employed with advantage when the intention is to bring, quickly, a phlegmonous tumor to suppuration.

## GONORRHŒA.

## PILLS.

R Copaibæ bals. ʒ ij.  
Magnes. Ustæ, ʒ ss.

Mix them, and set the mixture aside until it concretes into a pilular mass, which is to be divided into two hundred pills. It is important to the success of this mixture that the magnesia be recently prepared.

R Camphoræ pulv ʒ ij.  
Ext. Gum. Opii, gr. viij.  
Mucilag. q. s.

Mix and divide into sixteen pills. Given in doses of two or three every evening, to allay irritation in the neck of the bladder, chordee, &c.

## MIXTURES.

R Copaibæ resin.	} āā ʒ j.
Alcohol.	
Syrup. Bals. Tolut.	
Aquæ Menth. pip.	
Aquæ Flor. Aurantii,	
Sp. Ætheris Nitrici, ʒ ij.	Mix.

Dose, from two to six table-spoonfuls daily. This is a formula of Chopard, that is much celebrated in France.

R Copaibæ bals.  
Sp. Ætheris Nit. āā ʒ ss.  
Pulv. Gum Arabici,  
— Sacch. alb. āā ʒ j.  
Sp. Lavand. comp. ʒ ij.  
Tinct. Opii, ʒ j.  
Aquæ destill. ʒ iv.

F. M. A table-spoonful three times a day for a dose.

R Pulv. Cubebæ, ʒ j.  
Sulphat. Alum. et Pot. ʒ j.  
Pulv. Gum. Arabic.  
— Sacchar. alb. āā ʒ ss.  
Aquæ Menth. pip: ʒ xij.

F. M. secundum artem. Dose, three table-spoonfuls four times a day.

R Copaibæ bals.  
Tinct. Cubebæ,  
— Catechu,  
Sp. Ætheris Nitrici, āā ʒ j.  
Tinct. Opii camphor. ʒ iss.  
Pulv. Gum. Arabic.  
— Sacchar. alb. āā ʒ ss.  
Aquæ Menth. pip. ʒ ivss.

F. M. Dose, a table-spoonful two or three times a day.

CAPSULES, containing copaiba and the oil of cubebs, have proved very useful in my practice.

## INJECTIONS.

R Aquæ Rosar, ʒ iv.  
Sulph. Zinci. gr. x.  
Tinct. Opii, ʒ ss. Mix.  
To be injected several times a day.

R Aquæ Rosar. ʒ iv.  
Alum. et pot. sulph. gr. x. Mix.  
To be used frequently.

R Aquæ destill. ʒ iv.  
Plumbi acet. ʒ j. Mix.

R Zinci sulph.  
Plumbi Acet. āā ʒ iss.  
Aquæ destill. ʒ viij.  
Solve. Filter, and use for injection.



℞ Vini rub. ℥ vj.  
Acidi Tannic. gr. xvij. Mix.

℞ Aquæ destill. ℥ iv.  
Argent nit. gr. j. Mix.

Some surgeons employ as much as a grain to the ounce. If a very powerful effect be desired, with the view of cauterizing, ten to thirty grains to the ounce of water may be used.

℞ Aquæ destill. ℥ iv.  
Ferri iodidi, gr. ij. Mix.

The quantity of iron may be increased to as much as ten grains to the ounce of water, but as there is danger of irritation, much care is required.

℞ Querci cort. ℥ ij.  
Aquæ, Oj.

Boil down to half-pint, strain and add twenty grains of alum.

Any one of the foregoing injections may be used for the vagina, but generally require to be made somewhat stronger.

It ought to be observed, that to use injections most successfully, they should be employed as often as every hour or two. There is almost an endless variety of them. Those which I have found to be most useful I have selected ; and I live in hope of yet being able to find something when locally applied to the urethra, that will prove a perfect specific for Gonorrhœa.

### NOTICE.

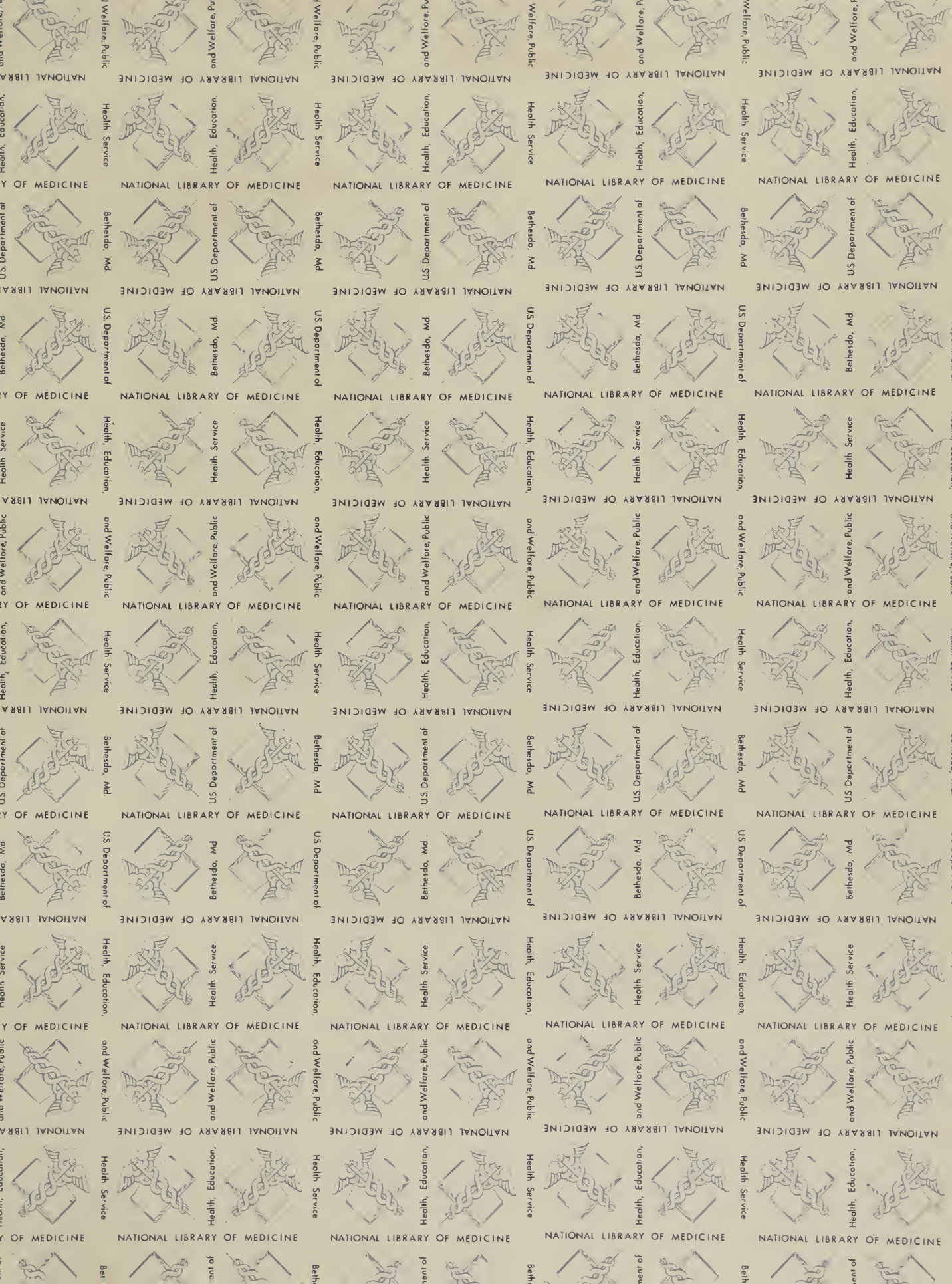
*I omitted, unintentionally, to acknowledge in the Preface, that the Chapters describing the Male and Female Organs of Generation, have been selected mainly from BELL, with such alterations only, as seemed to be necessary to a work of this nature.*

FINIS.



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